

DECEMBER, 1875.



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TO FARMERS AND GARDENERS.

\$1,000 REWARD TO ANY ONE that can find by analysis or otherwise any adulteration whatever in our manufacture of Bone.

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The First Manufacturer in America that sold **GROUND BONES** by **WEIGHT**.

PURE BONE DUST AND

BONE MEAL

from Slaughter-house Bones, twenty-five years the standard for purity and excellence.

CHEMICAL LABORATORY OF P. B. WILSON, No. 32 SECOND STREET, BALTIMORE, July 30, 1878.

Joshua Horner, Jr.—Dear Sir: The following is the result of analysis of a sample of your

Bone Dust drawn by myself from a lot of seven tons lying in your warehouse:

Moisture, (deter. at 212° F.).....	3.74 per cent.
Organic Matter.....	40.12 per cent.
Containing—Nitrogen, 4.08; Ammonia 4.95.....	
Inorganic Matter	56.14 per cent.
Containing Phosphoric Acid.....	24.52 per cent.
Containing Bone Phosphate of Lime.....	58.52 per cent.
Insoluble Matter.....	2.51 per cent.

This is the **BEST SAMPLE OF BONE DUST** I CAN FIND IN THE MARKET, and call your especial attention to the **LARGE PERCENTAGES OF VALUABLE MATERIAL** for the improvement of the soil, and to the **SMALL PERCENTAGES OF moisture and insoluble matter**.

Respectfully, etc.,

P. B. WILSON, *Analytical and Consulting Chemist.*

PREPARED FOR DRILLING, AND PACKED IN BAGS, 167 LBS. EACH, AT \$42 PER TON. DISSOLVED OR VITRIOLIZED BONE, \$43 PER TON. BONE ASH, GROUND AND DISSOLVED, \$42 AND \$48 PER TON. FARMERS' SUPPLIES.

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ALL KINDS OF FARM SUPPLIES.

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IMPROVED LIVE STOCK,

CATTLE, HORSES, SHEEP, SWINE and POULTRY. In this Department we buy only from breeders of established reputation of the several kinds, and cannot undertake to procure ordinary farm stock, such as draft horses, milch cows, &c. In this vicinity great attention is paid to some particular breeds of stock, and specimens can be had here which are nowhere to be surpassed.

As in all transactions we operate for the purchaser, our terms must necessarily be

CASH (or its equivalent.)

Sam'l Sands & Son,

EDITORS AND PUBLISHERS AMERICAN FARMER,

No. 9 North St., Baltimore, Md.

THE AMERICAN FARMER.

"O FORTUNATOS NIMIUM SUA SI BONA NORINT
"AGRICOLAS." *Virg.*

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VOL. IV.—No. 12.]

DECEMBER, 1875.

[NEW SERIES.

On the Culture and Trenching of Fodder Corn.

By AUGUSTE GOFFART, Corresponding Member of the Central Society of Agriculture of France, Secretary of the Consulting Chamber of Agriculture of Romantia, Member of the Central Committee of the Sologne, Agriculturist at Burtin near Nouan-le-Fusillier (Loir-et-Cher.)

[CONCLUDED.]

Messrs. Editors of the *American Farmer* :

The report heretofore quoted from continues:

It remains to inquire whether beet-root culture, beets as a forage crop, so easily preserved during winter, would not yield better results per hectare than corn forage. For those who know the lands of Sologne this question is soon answered. Elsewhere agriculturists have harvested 100,000 kilogrammes of yellow globe beets per hectare, by using 100,000 kilogrammes of manure. But these results are impossible in Sologne. The beet is not adapted to the soil, while corn vegetates there readily, grows well and in the best conditions yields fabulous products—100,000, 120,000, and even, according to M. Goffart, 150,000 kilogrammes of an excellent forage, less rich no doubt than the beet when both are fresh, but which is better adapted to the feeding of milk cows, and which is improved by trenching. We do not believe we are far from the truth in saying that in Sologne, and in equal conditions of culture, that the mean or average product of corn per hectare will be at least double that of the beet. We must then congratulate M. Goffart and the Solonais agriculturists who, like him, have made corn the base of their forage productions, so much that this culture is associated quite naturally with that of rye cut green, which is also wonderfully adapted to the lands of Sologne, and one can thus make two successive harvests in the same year. This has been done at Burtin. The corn is sown after the rye is consumed green.

M. Goffart states his experiments in trenching corn were commenced in 1852, and what we have seen at Burtin has proved these trials have led to practical results. We have been impressed, above all, by the view of his trench placed in an old distillery building which furnished food daily to his cow-pens. These trenches were made simply by lateral walls and end or cross walls

of 2½ metres high. No excavation in the soil was made, and the forage was heaped on the soil itself as high as the top planks permitted. Openings were left in the lower cross walls so as to permit the men to pass from one section to another in filling or emptying the trenches.

M. Goffart cuts the maize before placing it in the trenches. The size of the stalks of his luxuriant corn led him to do this, which must have the following results: 1. A more uniform mixture of the stalks and leaves of the corn with the straw. 2. A division of the stalks into *pieces so small* that the animals chew it easily and lose none, which is not the case when the stalks remain entire, at least as was the practice of M. Moreul at the Grignonnière, where they do not sow very thick set in order to have the stems very fine. 3. Lastly, a subsidence from shrinkage of the forage more regular and more efficacious for its preservation.

M. Goffart recommends very highly the mixture of chopped straw with the corn in order to absorb its superabundant moisture; he believes thus to obtain its better preservation. The bundles of straw, which have some nutritious value, serve to increase the quality of the trenched corn. They must contribute besides to protect the corn from contact with air and moderate the fermentation, as we have found.

M. Goffart insists also on the necessity of heaping and packing the mass of cut forage with the greatest care. It is, in his opinion, one of the essential elements of its preservation.

But this subsidence is increased by the effect of fermentation; we have remarked that the heap which had been raised to 2½ metres was reduced to 1.60.

This heap when first formed was salted with coarse salt, but only on the surface; it was then covered with a layer of straw, held on by planks known as slabs—outsides—of small value, and above these rows of straw bundles covered the whole.

A section here follows explaining minutely the method of opening the trench to feed the forage, which may be abridged by saying, care is exercised to open it with as little exposure to the air as is possible, and replace the bundles of straw just as we daily collect our sweet potatoes for dinner during the winter.

This heap when opened was in a state of active fermentation; the thermometer which M. Barral placed in the mass marked 46°. The forage we extracted had a very marked alcoholic odor and its taste was slightly acid. It was consumed with avidity by the cows, of which it had formed their only food since winter commenced.

We have been struck with the appearance of very good health shown by the 28 or 30 cows in the stables at Burtin. Their eyes were lively, their skins soft, and their dejections showed the stock to be in good condition. But the point which above all attracted our attention, because it gives the best measure of the value of food, was the condition of the sucking calves. They are always the more delicate, and the first to suffer from the bad nourishment of their dams; not a single one had the hair *pique* or was in bad order.

The forage which produced this excellent result contained neither salt nor oil cake, and one can readily inquire if it would be sufficient in every condition.

It is probable that if it was required to feed the cows for milking purposes, and we desired to push the milking to 25 to 30 litres per day, it would be necessary to add to the diet, oil cake or meal of grain, to the forage ration which in our opinion did not exceed 25 to 35 kilogrammes—in fact the mean allowance was 27 kilogrammes daily,—but for the cows which the stables of M. Goffart contained, weighing only 400 to 500 kilogrammes live weight, this ration appeared sufficient for them and their calves.

The trench of which we have just spoken would furnish food for the stock of Burtin up to the end of March, but M. Goffart had in reserve other trenches of corn. He has opened before us two other trenches not yet touched since closing; one in open ground by the side of the farm. One 2 metres broad (6½ feet) by 2 metres deep and 10 metres long, bricked, the corn forage was heaped up rounded (literally *en dos d'âne*—like the back of an ass,) and covered with compact soil, equally heaped in such a manner as to shed the rain. The forage drawn from it showed a temperature of 16°; its odor was not sensibly alcoholic; its taste appeared more acid than that obtained from the preceding trench, and the preservation appeared to us less satisfactory in the respect that there were some parts altered on the top and sides. But the interior was in good condition. It contained much less straw than the corn in the trench from which they were feeding. We have placed a basket-full before some cows which were at liberty, and they have consumed it with avidity and a good appetite.

Lastly, a third trench, *not bricked*, has been opened, made in a circular form on open ground. It had only a depth of six feet by three feet in diameter. The fodder corn on top was completely altered, and showed much mildew of various colors, white and red, passing promptly to green; according to the observations of M. Barral, the thermometer plunged in the mass indicated a temperature of 10° (centigrade.) The forage drawn from the middle of it possessed no odor, its taste was acid, but the cows ate it also, although showing a marked preference

for the forage from the first or covered trench.

On a comparison of the three trenches examined, there appeared to result a decided advantage for the first, but it is difficult to say what causes have produced the better preservation of the corn forage that we have observed.

Is it due to local disposition and to its covering? Is it not also due to its larger size and to the greater quantity of straw with which it has been mixed? There is no similarity between the three trenches in this respect, and it was in the last opened and smallest, where we have met with *no straw*, that showed the greatest loss. We think the dimensions of the mass to preserve must have also a great beneficial influence. The subsidence must be more complete, the access of air more difficult, fermentation more slow and uniform, and the cooling must be slower in the large than in small masses, and the loss must be also relatively less. The presence of a quantity of straw chopped fine, more or less considerable, or the absence of this absorbing substance, must have a sensible influence, not only because it diminishes the moisture of the mass, but also because by enveloping the corn, protects it from contact with air.

But we must ask if the fermentation, that we have found much the most active in the covered trench of the largest dimensions and which contained the largest amount of fine-cut straw mixed with the corn, is in itself a favorable thing for the preservation of the forage? We have not, it is true, observed mould or mildew about this corn whose temperature was 46°, and it is very possible that this great heat contributed to assure this satisfactory result; we can think also that this fermentation has, by the evaporation of moisture and disengagement of carbonic acid which are the consequences of it, an influence on the quality of the conserved fodder. It is to it evidently that must be attributed this alcoholic odor, which appeared to be agreeable to the taste of the animals; but this fermentation, is it not at least a commencement of alteration which must cause a loss of substance? The formation of alcohol, according to the analysis of our confrere, M. Barral; is accompanied by that of other acid substances, which can be less advantageous; this acidity has impressed us during the testing of the fodder, and we have desired our savant secretary perpetual to explain it.

Below will be found his analysis and letter with it: it appears after deducting losses and waste, which are found much greater in the trenches in open air than in the large covered trench in the building, the latter is better preserved at the same time it is more modified and more acid than in the former.

The first part of M. Barral's letter is devoted to incidents of his visit and allusions to former specimens of the fodder corn sent him for analysis by M. Goffart. Then follows a minute description of his method of analysis very interesting to chemists and scientific men, but tedious reading to the practical farmer.

His first analysis shows, and this was corn previously sent to him, in one hundred parts, 79.85 of water; 18.70 organic matter; mineral matter or ashes, 1.45. The ashes contained 0.0773 phosphoric acid, 0.1660 lime.

He then gives a more complete analysis, showing the same amount of water. Then those parts soluble in water—azotised or nitrogenous matter, 0.575; sugar, 0.690; other soluble organic matters, 4.215; ashes, 0.590 (phosphate of lime.) Parts insoluble in water were found to be azotised matters, 1.112; fatty matters, resin, 0.770; cellulose, 4.820; starch (amidon) and other organic matters not nitrogenous, 6.538; mineral matters—ashes, 0.850. In the ashes, beside phosphate of lime, were found, potash, 0.2560, sulphuric acid, very little chlorine or oxide of iron, and some sandy insoluble matters not acted on by nitric acid.

After his analysis he says: "I will add that the substance presented an odor in part vinous, agreeable, but having something particular and very persistent,—remaining, for example, a very long time on the hands after rubbing them with the fodder corn."

His letter repeats, in great part, what has already been stated in reference to the three trenches examined, and states that on the same evening after his arrival at home, he commenced the analysis of the samples from the three trenches examined. The temperatures of the trenches—46, 16, 10—in the order examined, have already been given. He found less organic nitrogenous matter in the largest and best trench—1.10; more in the second—1.19; and most in the smallest circular trench—1.37. This he ascribes, in great part, to the greater admixture of straw in the first than the others. The acidity in each specimen, on analysis, shows a close relation with the temperature. This in the first of 46° it was 0.792; the second of 16°, 644, while in the circular trench of 10° it was only 0.099.

A sensible quantity of alcohol was found in the specimen from the large trench of high temperature in the building; not a trace in the others. After his minute analysis, he says: "As to saying to-day what are the transformations produced in the trenches, it is a very delicate question to solve without undertaking new investigations, and it will be necessary to commence by taking a sample of the chopped corn at the time it is placed in the trenches. Every comparison will be impossible without this precaution, which has not been taken." He closes his letter with some general remarks in reference to the good preservation of all the specimens, and specially alludes to the preference which the stock exhibited for the fodder corn most charged with alcoholic odor from the trench in the old distillery.

In neither of the letters of M. Goffart do we find any allusion to the proper or best time to harvest the fodder corn, but in the discussion of the subject held at a meeting of the society in February, I find M. Goffart replies to a number of questions addressed to him by the members. "He cuts his corn in disks of about two centimetres (inch 0.39371.) Best time for cutting or the harvest, is when the grain commences to be formed; never necessary to wait for the first frost." Replying to observations of M. Le Comte de Rouge on the comparative value of trenches in the earth or in masonry, M. G. replies that "he prefers the latter, and with them he can guarantee success,—with ditches in the soil drainage must be looked after with great care."

In the course of the discussion, one of the members, M. Perret, advanced the idea that it was not necessary to hasten the trenching or covering the trenches, but let fermentation occur and the vapors escape, &c.

To which M. Joulie replied, combatting this opinion, and as at the conclusion of his speech M. Goffart stated that "he entirely concurred with him, and his theory was in perfect accordance with the facts observed in his long experience, and cited many examples in proof of it," I will give the gist of the speech:

"Complete fermentation will have transformed all the sugar of the plant into alcohol. Now, it results from all works published for the past ten years that *alcohol is not a food*. For a long time it was believed that it was a respiratory aliment—an error at present destroyed. It is necessary on the contrary to permit the commencement of the establishment of a fermentation which converts a part of the sugar of the plant into carbonic acid. Under the influence of this phenomena there is developed some vapors which it is necessary to keep enclosed in carefully covering the trench. These vapors fulfil a protecting role in preventing the introduction of air, whose oxygen would rapidly alter the mass to be preserved, and the plant remains thus in a condition approaching as nearly as possible the fresh state.

A great part of the saccharine matter remains in the cut stalks, and the commencement of fermentation, in developing an alcoholic odor, renders the forage more appetising."

In concluding his first pamphlet of sixty pages, M. Goffart offers a premium of 500 francs (\$100) to the inventor of a small cutter adapted to the use of hand power and small farmers.

"The conditions which the implement must fill are the following:

"Its cost must not exceed 100 francs (\$20.) It must operate under such circumstances, that a man and boy of 16 years old, or a woman, in a day of ten hours work, could cut up properly for entrenching 3,000 kilogrammes (over 3 tons) of corn forage."

He then closes by answering this practical question: What is the daily cost of feeding and keep of horned stock on trenched corn forage?

The cost of growing the fodder corn, harvesting, cutting, trenching, feeding and keep of the animals are all charged with credits, for the manure obtained for succeeding and other crops. These of course must vary with the cost of labor and bought manures, yield of the forage per acre, *et cetera*. His estimates are based on the following figures: 120,000 kilogrammes (say 120 tons on 2 acres;) manures, \$40 per acre; seed, horse and hand labor, \$20 per acre—equal to 600 francs (\$120) for a fraction over 2 acres.

Harvesting the fodder corn in the field, 5 francs (\$1) per 1,000 kilogrammes (about one ton.) He allows only a franc (20 cents) for expense of transporting, and 6 francs (\$1.20) for cutting each ton and placing it in the trenches ready for the animals. Then, allowing 40 kilogrammes (81 lbs.) as the daily ration per head per day, from 1,000 kilogrammes, 25 rations cost each 24 centimes (a centime is 1-5 of a sous or cent.) Adding 6 centimes for the daily care (cheap labor) of the cows, we arrive at the medium daily expense per head of 80 centimes (6

cents.) or 109 francs 50 centimes (not quite \$22 per annum.)

From this must be deducted 50 francs (\$10) for the annual return of manure from the cows; so that really the annual cost of keeping the stock does not exceed a daily expense of 16 centimes (a fraction over 3 cents) for each cow.

"I have not here considered the green rye or the value of the manure remaining after the corn harvest, and only offer these figures as approximate estimates. The importance of the corn-fodder harvest, which varies with the variety grown, with the years, the seasons, the soils, are elements too uncertain not to render such calculations variable also in cost, to a wide extent; but the average in a series of years is not far from these estimates above given."

Your correspondent will add but a line to this long article, and it is to call the attention of the "breeders of fine and imported stock," "the dairy-men supplying our cities" with milk and butter, and our farmers in general, where the "no fence law exists," to the importance of this most economical and paying method of wintering their cattle.

G. W. BRIGGS, M. D.

Nansemond Co., Va.

Barn-Yard Manure—Its Real Value.

The *Scientific Farmer*, in an article on this subject, says the composition of animal excrements depends upon the food consumed, the age and condition of the animal and the work it does, whether used upon the road, or kept for the production of beef, milk, wool, &c.; and that the ultimate composition of the manure pile depends, besides, upon the time the animals are in the stables, and upon the care exercised in saving the liquid and solid excrements. Animal excrement is the food the animal ate, less the amount taken to form the flesh, bones, &c. The manure pile is the excrements of animals while in the stable, mixed with litter, soil, &c., and less the amount wasted in the loss of liquid manure.

The actual amount of plant food in stable manure is a very uncertain quality, varying in each case, but the following table shows the average composition of ordinary barn-yard manure in the 1,000 pounds:

Manure.	Water.	Organic Matter.	Total Ash.	Nitrogen.	Potash.	Phosphoric Acid.	Lime.	Magnesia.
Fresh	710	246	44.1	4.5	5.2	3.1	5.7	1.4
Half Rotten.....	750	192	58.0	5.0	6.3	2.6	7.0	1.8
Much Rotten.....	790	145	65.0	5.8	5.0	3.0	8.8	1.8

The following table shows in some of the common crops—the yield being the average in Massachusetts—the total amount of the substances named taken from an acre:

	Yield per acre, lbs.	Nitrogen, lbs.	Potash, lbs.	Phosphoric Acid, lbs.
Indian Corn.....	7042.9	55.31	91.37	30.2
Wheat.....	3367.4	29.99	17.15	14.18
Rye.....	3590.	23.38	23.31	12.68
Hay.....	1980.	35.15	34.33	7.87
Potatoes (Tubers)...	7350.	34.19	42.5	13.6
Tobacco (Leaves)...	1450.		78.44	10.29

These comparisons, says our cotemporary, are as good for Texas as for the Bay State. From the two tables, it will be seen that the relative proportions between the contents of the crops vary greatly. For example, the potash in Indian corn, potatoes, hay and tobacco greatly exceeds the other two constituents named, while the potash in the manure about equals the nitrogen. In the case of the wheat, the nitrogen predominates; not so in the manure. For the rye alone does the ordinary barn-yard manure appear to be anything like a complete manure. When the roots are considered, the results are similar.

Taking the whole farm into the calculation, if no crops were sold off, and there was no waste of manure, or if sufficient stock food was purchased to make good the outgo in connection with a proper system of rotation, ploughing in of green crops, etc., although stable manure is a very incomplete fertilizer for a particular crop, yet the store of plant food in the entire soil of the farm would be kept intact, and the farm constantly increase in fertility. But on comparatively few farms does this state of things exist. As it is, in all ordinary cases, taking into account the usual wastes, and selling off of crops, the total amount of manure is insufficient to supply half the plant food for the crops we expect to equal in amount those of the previous year. The plant food in the soil made available from the rocks and air by natural agencies, constantly growing less each year, and we permitting the wastes, and selling crops without equivalent returns, our farms rapidly run from under our feet, and we sit down to decry farming, decry science, and aver—with truth in this case—that "farming don't pay nothing." Where the first set of conditions exist we have usually high farming, and remunerative farming; likewise, if, instead of buying cattle food, we buy commercial fertilizers judiciously.

Bulk in any manure is no criterion of value.

What barn-yard manure is worth per ton, in cash, depends upon the plant food it contains, and this, as said before, depends upon the food consumed; richer the food, richer the manure.

But taking the average composition as stated above, and reckoning the price of the three important constituents—nitrogen, potash and phosphoric acid—based upon the market price of Peruvian guano, we find the cash value of a ton to be only about three dollars, or — dollars per cord. Of course, this is only approximate, but it tells a good deal for all that. In addition to this, we have the large amount of organic matter, a necessary thing in the soil, but which we cannot afford to pay cash for, when it can be obtained on the farm. At most we cannot afford to pay much more for organic matter (humus) in stable manure, than in muck, etc. Where produced on the farm its full value should be considered.

But here we are at the end of another article, and not half to the end of the subject. To round off with we will add that we consider barn-yard manure, so far as it goes, and is produced on the farm, the cheapest and best manure. How far it will go, depends upon the management in making, saving and application. There are very few cases in which outside aid is not needed to keep the farm fertile.

Farm Improvement in Montgomery Co., Maryland.

We give below the report of Mr. Henry C. Hallowell, on the improvement in the agriculture of Montgomery, referred to in our last number, in an extract from the Department of Agriculture article on the resources of Maryland.

Premising that the soil is generally thin, but that it is remarkably susceptible to improvement, Mr. H. says:

The nucleus of this improvement was probably a section called Sandy Spring, about eighteen miles north of Washington, inhabited principally by members of the Society of Friends,—plain, industrious, economical people, with more than average intelligence. The success of their labors was manifested by practical results which soon attracted the attention of observant residents of other portions of the county, and the spirit of improvement, once awakened, spread rapidly, until thousands of barren acres were reclaimed, and skillful experimenters and careful farmers in many parts of the county equaled and even bid fair to surpass the originators of the movement in their judicious and successful renovation of worn-out lands. This was particularly the case in the section bordering on the Potomac River, where an agricultural society, of which Dr. William Brewer was president, initiated numerous valuable experiments.

The first effort toward arresting the deterioration in the fertility of the soil was made about 1826, by those who directed their efforts toward obtaining a growth of clover by the application of lime. Limestone of a tolerably good quality was found in an adjoining county. This was hauled to the farms, burned, and applied both upon the sod and ploughed ground. A growth of clover being thus induced, (with very varying results, however, upon different farms,) it was turned under, and a gradual improvement in the character and yield of the soil was obtained.

The introduction of ground bone about 1839, and of guano about 1844, effected a revolution in the method of improvement, and the lime-kilns were abandoned. The pioneers in accurate and systematic experiments with the then new fertilizers were Benjamin Hallowell, (formerly of Alexandria, Va.), Richard F. Bentley, the Stablers, Farquhars, Brookes, and other practical men. Benjamin Hallowell, in the years 1843, 1844, and 1845, tried many experiments with guano, bone, (crushed or ground,) in quantities from 3½ bushels to 30 bushels per acre, ground charcoal, poudrette, and lime. Lime was found to be of little apparent benefit. Charcoal produced no perceptible improvement. Ground bone increased in effect with the amount used, though about 10 bushels per acre was found to be the most profitable application. Peruvian guano was at that day magical in its results, and by it, with the bone, he was able to get his farm into a good sod. This once accomplished, careful farming, and the continued application of fertilizers, and what home-made manure he could obtain, augmented the improvement and increased the annual yield. The guano was applied at the rate of 150 pounds to 300 pounds per acre, with 10 bushels of ground bone, upon the wheat-land

when seeded to grass. The field thus treated received no further manuring, save compost or poudrette, in the fall, for corn, until its turn came in rotation to be again seeded. The barn-yard manure was best applied as a top-dressing upon grass. The result of his labors and continued applications by himself, tenants, and sons, is shown in the following contrast of the yield of his farm in the years 1845 and 1870. In the latter year, moreover, a large family was being supported, and there was much good stock upon the place, while in the former, some of the articles needed for family use were purchased from neighboring farmers, in addition to the hay and corn necessary for the sustenance of two horses and two cows.

	1845.	1870.
Hay.....	16 tons.	75 tons.
Wheat.....	41 bushels.	360 bushels.
Corn.....	70 bushels.	1,300 bushels.
Pork.....	1.75 pounds.	2,500 pounds.
Other items.....	\$100	\$200
Oats.....		400 bushels.
Stock sold.....		\$300

The crop of 1870 was from the same farm, but of course much of it grown upon land that in 1845 was not capable of cultivation from want of clearing, draining and manuring.

As a further illustration of the results of the renovation of worn-out lands and improvement of that already under cultivation, the following census-returns for 1850 and 1870, for one district of the county, embracing about one-fifth of its area, will be suggestive. The census was taken each time by the same gentleman, William H. Farquhar, which insures greater accuracy.

	1850.	1870.
Wheat, bushels.....	23,100	46,700
Rye, bushels.....	800	3,410
Corn, bushels.....	56,000	107,900
Oats, bushels.....	36,600	41,680
Potatoes, bushels.....	9,900	77,420
Bu ter, pounds.....	88,140	59,140
Hay, tons.....	1,410	4,260
Value of slaughtered animals.....	\$12,715	\$55,560
Total value of farm products.....	156,650	390,000
Value of live stock.....	58,495	184,880
Clover-seed, bushels.....		373
Value of orchard products.....		\$11,000

Of the same nine farms in this district, the total value of the production in 1850 was \$10,365, and in 1870 \$36,320. The population increased in the same time from 2,786 to 4,700.

These figures show but a part of the wonderful change effected by the improvements alluded to. Land bought for \$2.05 per acre, and which was thought by a visitor to the county at the time to be \$2 more than it was worth, is now a fertile, beautiful, and popular section, which is not for sale, and would, if sold, perhaps command from \$75 to \$100 per acre. Turnpike-roads costing from \$2,000 to \$2,200 per mile have been built, intersecting each other, and leading to Washington, while the earth-roads have been very materially improved. Fine stock of the best breeds have been introduced at a considerable expense. Farmers' clubs, conventions and associations have been organized, the oldest club having held monthly meetings since its organization in 1844. Our young men rarely leave us, generally taking a portion of the old homestead, and making the part produce as much as the whole once did.

The yield per acre in 1845 on the parts under cultivation was about an average of 20 bushels of

corn, 12 bushels of wheat, and from $\frac{1}{4}$ to $\frac{1}{2}$ ton of hay. It is now about 40 bushels of corn, 20 bushels of wheat, and $1\frac{1}{2}$ tons of hay. Upon some farms, in favorable seasons, there have been raised, per acre, 80 bushels of corn, 40 bushels of wheat, and $2\frac{1}{2}$ tons of hay.

The ease of access to Washington and Baltimore, and the substantial results of the aforementioned attempts to improve the fertility of the soil, the gently undulating character of the country, the healthy location, pure water, and fresh air, have all tended to draw attention to our county, and many citizens of Washington, Baltimore and other places have purchased farms and settled permanently or for the summer within our limits.

Some farmers who had thought of emigrating to the West have concluded, after visiting the States beyond the Alleghanies, that the same industry, economy and outlay which would be necessary there would give them equal pecuniary returns here, with all the added advantages of an older civilization and the inestimable privilege of remaining among friends, relatives, and old associations.

••• Making and Managing Manures.

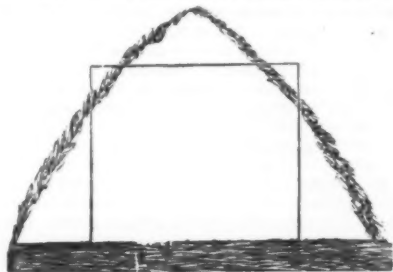
Joseph Harris, with whom making manure and killing weeds are the most favorite themes, writes thus in the *American Agriculturist*:

"We must make more manure. Manure is the farmer's capital. Capital is accumulated earnings. If I work for \$1,000 a year and spend \$1,000, I am no better off at the end of the year than at the beginning. But if I can, by working a little harder, earn \$1,200 a year, and by practicing a little economy, live on \$800, I can lay up \$400. This \$400 is *capital*, and begins at once to earn money for itself. Capital is accumulated earnings. It is what is left of our profits or wages after deducting the expenses of living.—Manure is accumulated plant food. It is what is left after raising and disposing of a crop. If your land, as now worked, is capable of paying you 20 bushels of corn and a ton of stalks per acre every year, and you sell the whole, your land is no richer in available plant food. You are making no manure. You spend *all* your wages. But if by extra cultivation, by setting free more plant food from the soil, you can make your land pay you 40 bushels of corn and two tons of stalks, and instead of selling it you feed it to your cows or sheep and pigs, and are careful to save all the manure, then your 40 bushels of corn and two tons of stalks, less about 10 per cent. removed by the animals, becomes *capital*, and begins at once to earn money for itself.

It is worth while making a great effort to get a little capital, in the form of manure, and not always to be dependent on the yearly wages which the soil alone can pay us. How this can best be done, depends on circumstances. I think it will sometimes pay to gather leaves for bedding. I am *sure* it will pay to scrape up the barn-yards and not let the droppings of our animals lie exposed over a large surface, for the rains to leach out all the soluble matter. On my own farm I gather all the potato tops, and use them for bedding the store hogs. If not required

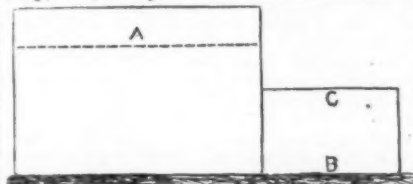
for this purpose, I should put them in a heap and mix them with manure.

Several farmers have written me, asking how I manage to keep my manure heap fermenting all winter. They have tried the plan, but the manure freezes as soon as it is wheeled on to the heap. This is probably because the heap is not started early enough, and is not kept sufficiently compact. If you have ever made a hot-bed, you will know how to start the heap. Get all the horse, sheep, cow and pig manure you can scrape together, and place it in some spot to which it will be convenient to wheel all your manure as it is made during the winter. If you set a man to do this work, he will be sure to scatter the manure too much and draw it in like the roof of



a stack, as shown in this diagram, figure 1. If so, the top of the heap should be leveled down, and the bottom narrowed in by throwing the manure on top until the heap is oblong or square, as shown in the figure. The object of this is to keep the top from freezing. If left narrow at top, the wind will blow through and you will have a foot or two of frozen manure. This square shape must be kept during the winter.—You will have to attend to this matter yourself, or it will not be done. And it will require constant attention during the winter, or your heap will soon be scattered, and the frost will get in. I place a plank on the heap, and as the stables and pig-pens are cleaned out, wheel the manure on top and *spread* it. Do not forget this latter point. And if your man neglects it, do not get too angry. After years of experience I have not found a man who did not need to be told again and again not to leave the barrowful unspread and exposed to the frost.

When it becomes necessary to enlarge the heap, the better plan is to take the manure from



the old heap down to *a* (fig. 2.) and commence a new heap with it (*b c*) at the end of the old heap. It would be well to get the manure from the centre of the old heap, where it is fermenting, and then fill up from the sides, and make the top level and square. Do this yourself and it will be well done. The new part of the heap, if started with barn manure, will keep on ferment-

ing, and you can add to it from day to day the fresh manure from the stables, pig-pens and yards. The whole heap will keep on fermenting slowly, and you can add *anything* to it that will make manure. The richer you make it, the better it will ferment. If you have any broken bones, or bone dust, or blood, skin, or any refuse animal matters, mix them with the manure in the heap. They will add greatly to the value of the manure and favor fermentation.

The heap can be extended on all sides in the way recommended above. The larger it is, the less danger there is of the frost getting in and arresting the fermentation. Great pains should be taken to save all the liquid from the animals. It is the most valuable part of the manure. If this is done, the heap will be moist, and there will be no danger of fire-flang. In a heap so managed there is little or no danger of ammonia escaping. The manure will be in prime order for use in the spring, and will have a far greater effect on the crop than if it was not fermented.

Cheap Corn-Growing.

Messrs. Sturtevant Brothers, of South Framingham, Mass., in a report to a local agricultural society, reproduced in the *Scientific Farmer*, gives the result of an experiment in raising corn on a field of 8 acres, which had been in sod since 1872, and previous to that date had given from decayed pastures, crops of corn, fodder-corn and oats.

The land was plowed seven inches deep, then furrowed, and a fertilizer applied of 404 pounds sulphate of ammonia, 151 pounds of muriate of potash, 110 pounds sulphate of potash and 199 pounds home-made superphosphate per acre, in two portions; first $1\frac{1}{2}$ barrel broadcast and $2\frac{1}{2}$ strewn over the hills, which were 38 inches apart.

The intention in applying this fertilizer was to furnish the land the exact amount of nitrogen, potash and phosphoric acid which chemical analysis would show an average crop of corn of 65 bushels to the acre would remove.

The total expenditure was as follows, per acre: Cost of seed, \$0.30; labor \$12.67; fertilizer, \$27.46; carting to barn, \$7.20; husking, \$3.25—total, \$55.88; credit with 4.12 tons fodder, at \$8, \$33.00; leaves the total cost of the corn, \$22.88.

According to the report of the committee, the yield was 82½ bushels, so that this corn was raised at an expense of 27.7 cents per bushel.

Two rows of the corn, 72 rods long, extending the whole length of the field, received no manure. They were equivalent to .172 acre, and yielded 6.23 bushels, of which 2.46 bushels were unmerchantable, and 3.77 bushels merchantable corn.

As the total yield was 82½ bushels per acre, this would make the natural yield 21.8 bushels, and the difference was 60.7 bushels. As they applied nitrogen for 60½ bushels, potash for 74 bushels, and phosphoric acid for 66 bushels, this difference represents, according to Prof. Stockbridge, the efficacy of the manures applied.

A second field, containing 2.7 acres, had a soil of gravelly loam, which had been in sod for several years, but although it had received liberal top-dressing, the grass had become "bound out,"

and the diminished crop showed tillage was required.

It was plowed in May, and soon after 90 loads of almost pure cow-dung were harrowed in, this being at the rate of 5.2 cords per acre. The corn was planted May 20. The cost per acre was as follows: Seed, \$0.30; labor, \$30.96; half the value of dung at \$8 per cord, \$20.80; hauling to barn and husking, \$10; total, \$62.06. Credit with 5 tons fodder @ \$8, 40 00

\$22.06

According to the Committee's report, there were 100 bushels of corn, so that the cost of the corn per bushel was 22 cents.

The quality of the land was represented by the unmanured portion, where one square rod gave 31½ lbs. of corn, equivalent to a yield of 68½ bushels of shelled corn to the acre.

On the fertilized field \$27.46 worth of fertilizer produced 607 bushels of corn; on the manured field \$26.80 worth of dung produced only 31½ bushels.

As to the comparative amount of fertile elements left in the field, the experimenters held that more was left, or as much, in the fertilized as in the manured field, and as half only of the manure was charged to the manured field, at least one-half of the fertilizer should be carried over to the next crop so as to afford a fair basis for comparison. This would reduce the cost of the fertilized crop to 11½ cents per bushel.

Concerning Good Roads.

Col. Waring, traveling in Germany, thus describes in the *American Agriculturist* the roads which he finds there. Why cannot we, who in our roads suffer from the lack of every good quality which these possess, and pay more for them—if not in first cost, certainly in wear and loss of vehicles, animals, harness, and temper—imitate the examples he gives?

There is one point, especially observable throughout the "effete monarchies of Europe," that cannot fail to strike every travelling American with wonder. I refer to the character and condition of the roads. Even in this dry, gravelly soil, naturally well suited for making good roads of our own type, and where there is hardly one wealthy man to twenty populous villages, every road that is more than a mere wood-path is graded and McAdamized, and is kept in serviceable condition by the occasional addition of broken stone. All roads a grade higher, such as those leading to the market towns, to the railroad stations, or to the river villages, are even better than these, while the main post-roads, which take the chief travel, are in every point and in every particular as good as the much-vaunted "drive" of Central Park. Roads of the last two classes are almost invariably bordered on both sides with some small growing tree, giving shade to the road without too much taxing the soil or shading the land. There are several reasons why roads are better here than with us; the most important being that these people have learned that a narrow road is as good as a

wide one,—even the high roads being barely wide enough for two vehicles to pass easily. Of course roads so made cost in the first construction a very considerable amount of labor, but after all, if they are well watched, the cost of their maintenance is very trifling indeed. One need only see the antiquated, ram-shackle old wagons, which, even when new, would hardly last a year on our roads, and which are evidently often older than the men who drive them, and see the enormous loads that are drawn by apparently inefficient teams, to realize that the money invested in making first-rate roads brings an enormous annual return in the economy of teams and the saving of wear and tear.

Annual Report of the Commissioner of Agriculture.

Mr. Watts reports that the Department has taken pains to keep itself informed of all improvements or new discoveries which affect the interests of farmers; that it takes no risk in the distribution of seeds as to quality, always taking care that they are the very best of their kind, and adopting each to the locality where the product will be most profitable, and impressing those receiving the seed, that their community will be benefited by the result of their experiments. He is assured that wonderfully beneficial results have been attained by this distribution of superior seeds.

The Commissioner says the repeal of the "franking privilege" has disturbed the operations of the Department and deprives the people of "a knowledge of the operations of the Government," which they ought to have; and he argues in favor of its revival to members of Congress.

He says the Ramie and Jute plants, brought into notice through the department's influence, are about to assume great importance. The problem of separating the fibre from its green covering and gummy principles, has, it is believed, been solved by the invention of machinery, which, by the aid of certain acids, separates the fibre perfectly and economically.

Ramie is a native of India and China, where the cost of separating the fibre by hand is \$150 per ton. A late invention claims to do this for \$30 a ton. It is a beautiful and lustrous staple and almost equal to silk in strength and brilliancy. Its value now in England is \$375 per ton, and it is said that in California 1,200 lbs. of the fibre are produced to the acre. In the Southern States, it also grows successfully. Jute has a fibre of coarser quality, adapted for cordage and bagging, and, from its length and strength, superior to flax and hemp.

The crop estimates of the Department have been, as a rule, strikingly verified.

The operations of the horticultural division of the Department consist largely of the propagation and distribution of economic plants, and the Commissioner is encouraged as to the growth and adaptability of the Chinese tea-plant over a large area of the country.

The chemical division is doing much valuable work in investigations of various subjects pertaining to the interests of agriculture. Amongst these were the influence of caustic magnesia in lime, produced by calcining magnesia limestone;

the influence of illuminating gas upon vegetables; the effect of arsenical compounds, in or applied to the soil, upon vegetation.

The botanical division finds work in correspondence upon the properties and uses of plants, and the herbarium continues to be enlarged.

The entomological division has had its correspondence largely increased, owing to the devastation of the grasshoppers and potato beetles.

The microscopist has been investigating animal and vegetable diseases of fungoid origin, and it is believed new facts have been developed which will lead to their more intelligent and successful treatment.

The seed division has distributed nearly double the amount of seeds sent out the previous year.

The Commissioner says his four years' experience teaches him that the people of the country estimate highly the influence which the operations of his department exert upon its agricultural interests, and prompts him to say that any action by Congress to increase its usefulness will be highly acceptable.

German Potash Salts on Cotton.

Mr. J. W. Summers, of Orangeburg, S. C., gives his experience in the *Southern Cultivator* as follows:

I, this year, used it at the rate of 100 lbs. to the acre, in combination with Peruvian Guano and Acid Phosphate, on land that had been rusting cotton badly for several years past. The beneficial effects are so great, that any one can tell the row it stopped on, and even the very foot it reached on that row.

I left it four rows through the field, on which I put the Peruvian guano and Acid Phosphate alone. That is badly rusted, while the rows adjoining on either side, with the Potash mixture, remain green and healthy. On lands not subject to rust, do not think it would pay, as the soil contains all the ingredients necessary for plant growth already.

In 1873, I used fifty bushels of ashes, in the drill, on an acre that had been eaten up by rust every year, (land well drained); and that year it did not rust. In 1874, planted again without ashes, manured as any other crop, and again it was free from rust, and gave me an increased yield over adjoining acres. Concluded the potash in the ashes did it; hence my reason for using the Potash salt. This year the result has been satisfactory on every acre used. Think 200 lbs. would be a better quantity for lands rusting badly—would give more satisfactory results.

An Old Friend.

A correspondent, "S," Pendleton, S. C., of the *Southern Cultivator*, writing on the subject of Guinea grass, elsewhere referred to in this number, says that at 78, he is fond of reading, now that he cannot do much else, especially of agricultural works, to which he has been devoted from his boyhood up. He commenced with the old *American Farmer* in 1820, by the advice of his postmaster—thereby alarming some of his old foggy friends, lest he should be ruined by "book-farming." Nevertheless he held on to the old *Farmer*, and is holding on to it to this day.

Correspondence.

The Duty of Readers of Agricultural Journals.

An old and esteemed friend, Mr. G. C. Gilmer, of Albemarle, Va., writes us a letter, in which, after some complimentary allusions to the labors of the conductors of the *Southern Planter* and the *American Farmer*, he says that as the minister of a church can do little of himself unless the members of his flock support and aid him, so the work of an editor will be very incomplete without the contributions and assistance of his readers. He continues:

I now implore all to zealously bestir themselves and resolve faithfully and fairly to discharge their whole duty to Messrs. Dickinson and Sands, as we hope and expect them to discharge their duty to us. Let us all resolve to subscribe to and write for one or both of their papers, for it is not only our duty but absolutely our interest. Then soon—very soon—those able editors will become vastly more able and efficient, and their numerous readers will become vastly more numerous, wise and prosperous. A man never can successfully edit an agricultural paper for a community as scattered and diversified as ours in climate, soil and production, without our united aid. He must have facts, and those facts must come from every part of the country for which his paper is intended, and to be reliable they must come from the interested citizen of each varying section, and the more numerous the articles from varying sections, the better able the wisest editor will be to make the most profitable and regular selection. Then let us all resolve faithfully to do our part, and thus enable him the better to discharge his to our now needy craft. We all must resolve to commit to paper and send for publication our ideas about something we know, no matter how crude, in order to support our agricultural papers. It is folly and wrong in us to refuse to write of useful facts because we can't spell, or write a beautiful hand, or clothe and adorn the good ideas in beautiful language. Give freely your good practical ideas, and if necessary the editor will supply a clean shirt and neat necktie; but don't wish or expect a gaudy and expensive dress of forty yards of glossy silk under which you could hardly recognize yourself, for it is plain practical things we all must now deal in or we are lost, and there does not live anywhere any man who does not know something which some one else does not know, and which might be of very great service to some to know. Then let us all resolve like the poor widow to throw in our mites, which may do so much good in these times of great need to our desponding craft. A farmer now, to succeed, must have a strong back-bone, (and if necessary had best apply at once a good strengthening plaster) and resolve that he and his household will henceforth diligently attend to the plain practical little things on which the peace, com-

fort and prosperity of us all now so much depend. He must read, think, plan, and faithfully act for himself, and if we should become wearied and a little galled with the drudgery of thus well doing, and foolishly long for a refreshing dish of politics, let us hold a meeting in our own family, around our own fireside, and carefully view the numerous wants of those so dear to us. It will nerve us anew for an effort to stick faithfully at our post of duty, to amply provide for these wants, and it will be more certainly, more quickly and effectually done than all the wire-working politicians and selfish lawyers of the land will ever give us. We must work out our own salvation, for I greatly fear they have designedly wrought the dark and desponding drapery which now hangs over and involves the entire American continent. To shew what virtue and power there is in little things, I will give two: one I learnt while a little bare-footed boy, of an old and rather stupid-looking negro slave; the other I learnt from a grape-vine. I was riding behind my father one Sunday morning to visit a sick neighbor. When nearing his farm, we heard his hog-feeder calling hogs; we rode by to see the hogs; the old man threw out his corn, took down his gourd of tar, and began smearing it on the stumps and trees. My father asked what that was for. He said to kill the lice and fleas on the hogs. My father seemed surprised, and asked how that tar on the trees could kill the lice on the hogs. "Mas George, dat dar the quickest and de besest way in de world for killing dem. You see when de lice or flea bite de hog, he walks right straight dar and smacks him agin de tar, and makes one rub, and he roll up in de tar and he done dead. Now I go kitch de flea, I grab at him, rub, think he dar, but he done gone." I have practiced it ever since and have never had a lousy hog.

In my younger and happier days, I was with my hands cleaning up a creek just come into my possession. The hands were tugging at a tree some 25 or 30 feet high. I caught hold of a grape-vine to help them, and to keep the tree from falling in the creek, found I could do more than all my hands in straining and shoving. I made them get long pullers, such as we use in moving the fires on our plant-beds, and they made much better time, and without the hard straining and useless shoving. I saw a neighbor (an intelligent, successful farmer) and his experienced overseer and hands cutting around and shoving at a tree such as mine was. They would dig a little, and strain more, but the tree stood erect. I laughed at them. The overseer in a fret asked what I was laughing at. I said at your folly. He asked me if I could do any better. I stopped them, had two of those pullies cut, one man reached up in the limbs, gave a pull, and to their great surprise down came the tree; and they said if they had known it in time, it would have saved them fifty dollars on that job. These are little things—but well worth knowing—learnt, too, from an ignorant negro slave and a grape-vine. Who more ignorant than they? So come on with your good ideas, however roughly clad, remembering almost all things are or will be in rags unless we bestir ourselves.

GEO. C. GILMER.

County and State Fairs.

Messrs. Editors American Farmer :

I was much pleased with the report of the various county fairs in your November number. Our own has been a decided success, both as regards attendance and interest manifested. Financially, we are doing excellently. Our Society was inaugurated two years ago. At present it owes but little over \$600, with 42 shares of stock to sell, which will nearly sweep out the indebtedness, leaving the Society in clean possession of its grounds and improvements. The grounds which at first were thought to be fully large enough for a county fair, have been found too small, and the Executive Committee have the subject of the purchase of more land under consideration. At our last Exhibition 8-minute horses were scarce, but good solid horses that could do a mile in 6 minutes without any trouble, and possibly in 5, if the driver was late for the cars, were plenty; in fact, there were but few fancy animals.

The interest taken in our Fair is in such marked contrast with the State fair at Pimlico, that it has led me to give some thought to the subject, and I have come to the conclusion that the State fair will never compete with well-directed county fairs. *The State fair must always depend on the city of Baltimore for the bulk of its visitors.* Now the county fair depends almost entirely on its own agricultural population for support. Coming as it does after corn-cutting and wheat-seeding, our farmers make a regular holiday of it; bringing their wives and children, spending the day and returning home at night, making the distance in from one-half to three hours, with a good pair of horses; and bringing, as most do, feed for their horses and lunch for themselves, the only extra expense was the entrance fee, 25 cents per head.

Now the expense account is one which enters largely into a thrifty farmer's pleasure. He can take his whole family to the county fair, meet all his country friends, and spend a pleasant day for less money than he could come alone to the State fair. Should he wish to exhibit stock the trouble and expense are nothing as compared to the freight, &c., to the city, and his chance of getting a premium far greater. There are near the city a few wealthy gentlemen to whom agriculture is a kind of amusement, and whose pocket can stand fattening stock at 25 cents per lb., so that it takes the premium. Now, though our farmers realize the fact that the man who raises two spears of grass where one grew before, is a benefactor of mankind, they don't expect it to be done at the expense of three; so when they exhibit stock (that has been raised for profit) at the State fair and find that a few rich men take all the premiums, they prefer to show where, if they miss a premium, they will not have a heavy expense to bear, besides the disappointment.

As you remarked in your note of our fair, the grounds were kept clear of all kind of gambling and rowdiness. On Thursday, the great day of the Fair, although there was probably from eight to ten thousand visitors, I saw but few men under the influence of liquor, and they were in every instance quietly taken away if they became noisy. If all keep their promise, our next

fair will be better attended both by exhibitors and visitors than the last. Hoping to have the pleasure of seeing you there, I remain,
Harford Co., Md. S. N.

Our French Letter.

To the Editors American Farmer :

Selection of Seeds.

The subject of selection of seeds, and of wheat particularly, occupies much attention. As a principle, it is said, one ought not to sow wheat in the place where it has been produced. True, it is an excellent practice to renew seed wheat, but is it necessary to do so every year? Competent authorities who practice what they think, reply no. So long as the yield of grain shows no falling off, and the grain displays no signs of degeneracy—easy at all times to perceive—there does not appear to be any necessity for changing the seed. Some farmers adopt the practice of selecting every year a quantity of the plumpest grains, sowing them apart in a kind of nursery, and thus keep a constant supply of sound seed. Unfortunately these kind of sowings are generally too thick; the axiom being forgotten, that the richer the soil, the thinner should be the sowing. A soil may be rich and well-prepared, but these conditions will not produce good grain, unless the seed be in itself "robust." The vigorous plant is that which has had during the stages of germination the largest supply of matters stored in the seed for its food. It is not counted good farming to cultivate numerous varieties of wheat, save where the farm is very extensive, and it be desirable to have the crops mature at some intervals—to allow of the better distribution of harvest work. For rude climates and poor soils the bearded varieties of wheat, with its fine straw, is generally chosen; the other kinds would simply fail. For milder climates and richer land, a variety of wheat more productive, with stronger straw and a harder grain, must be preferred. The crop will thus escape the chances of being laid and the ears from shedding the grain.

Testing Fertilizers.

Farming societies in France are commencing to adopt some excellent measures; many have already purchased some of the newest types of agricultural machinery, in order to initiate farmers into their use, while impressing them with a sense of their importance. From machinery, the plan spreads to test seeds, and it has now become the turn to experiment with manures. Samples of these are obtained, and tried under common conditions as to soil and crops. Thus each farming society has its experimental field. The results of a total series of trials, with divers fertilizers, may be thus summarized: Commercial manures alone ought not to be relied upon to maintain the richness of a soil; they ought only to be considered as the complement of farm-yard manure, taking care to alternate the phosphates with nitrogenous and potash preparations.

Preserving Green Fodder.

M. Goffart was the first in France to adopt the plan of preserved green soiling in covered trenches, as fermented food for live stock during winter and spring. Every autumn he invites

those who please to honor him with a visit, to come and witness his process of preserving maize. Three machines, drawn by steam, cut the fodder into lengths of one inch; for every six shovels of the green stuff a workman adds one of cut straw; the mixture is then thrown into the open trench; five tons per hour is the quantity thus manipulated, and fifty represent the produce of an acre. The maize is cut first on coming into flower. Of course it can also be stored in an unchopped state. When the weather is wet at the time of putting into the trenches, a more liberal supply of salt is distributed over the mass, at the rate of 7 pounds to the ton; strewing a little in the bottom of the trench, scattering it on the sides, never in the middle, and using it liberally on the whole surface of the last layer. Too much salt would injure the health of the cattle, that ought never receive more than 2 ounces of salt daily. Before covering with clay—never with sand—a layer of dry leaves or straw may be advantageously placed over the maize. Any fissures that may open, close them by a stamp of the foot, and in a few days the earth will have absorbed the fermenting gas. During frosty weather the food for the morning should be extracted from the pit the preceding evening, and *vice versa*; 40 pounds is a sufficient average feed for a cow, with 10 pounds of hay, given at three intervals, the first on entering the shed in the morning.

Raising Horses.

Horse-breeding in France is commencing to exhibit signs of practical amelioration. One of the chief obstacles hitherto has been indifference as to the food; this has been almost a rule respecting horses of a light breed, that were generally left to find out their living during their youth as best they could; precocity was no object, and at the end of four or five years they were certain to sell for something. The matter was different respecting heavy draught animals; in their case generous feeding during growth was repaid by early development and handsome prices. At present the fashion is generally to cross native races with English blood, but French breeders forget, or desire not to recall, that without liberal feeding there can be no good race of animals; no liberal feeding means oats, and such is the food that is not forthcoming; instead, straw and hay, with occasionally roots are given. What could a race, post, cab or omnibus horse do in the shape of work, if, instead of rations of oats, their stomachs were stuffed with straw and hay?

Sheep Breeding.

There is a marked tendency for the production of improved breeds of sheep. Each agriculturist apparently desires to have a "species" of his own, but what he obtains is of course only a variety. The production of wool is no longer regarded as a paying speculation. France cannot compete with Australia, South America, &c. &c., hence the aim is the precocious production of meat and of wool at the same time. Now precocity is not the privilege of any race; it is a mere question of feeding. M. Pilat is celebrated in the north of France for an excellent variety of sheep, known as "Brebieres," formed by the Dishley and a cross Merino breed, which he maintains by careful selections and crossings. The lambs at birth weigh from 9 to 12 pounds, and like their

mothers are objects of studied care in the matter of good feeding; when six weeks old the tails of the lambs are amputated; in March castration takes place; the weaning is effected gradually and naturally, and it is in the happy selection of lambs to be retained as rams, that M. Pilat excels. With the males the permanent teeth commence to show between the 12th and 13th months; the animal is adult at 30 months. For fattening he selects the animal having the chest broad and deep; eye lively; head small; forehead broad; hind-quarter well developed; bones small; skin fine and supple. During the fattening, absolute tranquility, demi-obscurity and regularity of feeding are observed. The lambs, which are in great request, are sold at the rate of sixteen sous per pound, live weight. It must be admitted, that the period for paying fancy prices for rams of celebrated flocks is dying out; agriculturists have discovered how to develop precocious breeds, and never to attempt such unless abundant and rich food be obtainable. To have a prize animal, and not the means of feeding in keeping, resembles much to the possession of the white elephant.

In the recent agricultural show at Luxembourg, held in honor of the twenty-fifth anniversary of the governorship of the King of Holland's brother, a few facts prominently stood out. The local breed of horses, resembling those of Hainaut, well adapted for draught work, but lacking a little in energy, were much remarked; they sell, however, for fr.1,200 to 1,500; twenty years ago one-third of that sum was considered to be a remunerative price. Pigs, as everywhere else on the continent, are confined to the large and small English races; local breeds are rapidly disappearing.

Agricultural Machinery.

A threshing machine, to be worked by two men—very common in Germany,—attracted much attention; but turning machinery is not the work now-a-days for mankind; we seek the motive power in steam, the air, the wind, and horses. Small farmers in France associate to purchase a threshing machine, worked either by steam or horse-power. There was a threshing machine also, that implement-makers it is hoped studied; instead of the two beating rollers having as usual a circular base, one of them was a cylinder with an oval base.

The Phylloxera.

The vine bug continues its ravages without any apparent diminution. No powder has been found, of the hundreds essayed, to act as a cure; the best only prolong the life of the vine, but do not save it. The Fancon process, that of flooding vineyards in autumn for six or eight weeks, is even called in question, but the failures on examination show that vines so treated were already next to dead, or the soil marshy; neither after the inundation did the vines receive a manuring, which they ought. It is useless flooding a vineyard, almost naturally in such a state; the soil requires to be dried after the phylloxera are drowned,—for such they really are. Experiments are being conducted, with various varieties of American stocks, taken in Delaware, California, &c., and reported capable of resisting the bug; the results have yet to be recorded.

Paris, October 30, 1875.

F. C.

Louisiana for Corn-Growing and Grazing.

Messrs. Editors American Farmer:

The overflows have forced me to abandon my once happy home in the valley of what is known as the "Sugar-bowl" of Louisiana,—the home of the orange and banana,—that ever generous and reliable soil. However, a kind Providence directing my steps, I have no fears for the future.

This is a grand basin, affording and offering to the practical farmer all the requisites, soil and climate, heat, air and moisture.

Acting on a few suggestions, it affords me exceedingly great pleasure to advise the results in the amount of corn produced by a few careful small farmers, and your June number fills me with hope, that eighty to one hundred bushels of sound corn can be produced on this high alluvial.

We have here abundant cotton seed, at about six dollars per ton. I regret to report the shipping of this article to the oil mills at New Orleans, when plain common sense should admonish the landed proprietors that all such should be restored to the soil or composted with other materials.

I have no other object than to impress on my own people the propriety of fully developing this truly rich soil; science tells me this can be done. What with live hogs, at 10 cents, gross weight, and beef cattle, at 6 to 7½ cents, gross weight, a grass country or a grazing country equal if not superior to the famed "blue-grass" of Kentucky and as fat beeves,—the opening for grazing and feeding cattle for market is so evident; yet strange that men of intelligence can be found, who are toiling for the enrichment of the "lords of the loom." EDWARD HICKEY.

Rapides Parish, La., Nov. 8, 1875.

Agricultural Calendar.

Work for the Month—December.

It is full time that everything was being made tight and close for the winter, and the work of the year finished up. This generally gives employment at this season, but the enterprising farmer can do much at least in the arrangement and preparation of work to be commenced in early spring.

The Corn Crop ought to be secured. It is, to say the least, equally safe when inside of the crib. Neither the husks nor fodder ought to be neglected, but stored where they can be conveniently reached.

Plowing.—Many chances will present themselves for breaking up stiff lands for spring crops. Such soils are benefited by exposure to the weather, and the rougher they are left the better.

Live Stock.—The care of farm animals demands at this season unremitting attention, if their comfort and thrift are not disregarded. Horses ought to have regular exercise, and those that work extra food. All ought to be provided for in well-ventilated but not drafty stables, and be cleaned thoroughly and systematically with the curry-comb and brush. Regularity in the

treatment of these useful servants of man is as promotive of health as it is with man himself. To secure this, the eye of the master should ever be open, the temptation to neglect by hirelings being always very great when the weather is severe and the days the shortest. Milk cows need both rich and succulent food to enable them to do their best. Happy the farmer who has been provident enough to provide himself with an abundant supply of mangels, sugar beets, ruta bagas, and turnips. It is good policy to begin to feed well and not allow your cows to run down early in the season, hoping to bring them up later. The wiser practice is not to let them fall off at all. An occasional carding and brushing will keep the cows clean, and will contribute to their health. Cows and heifers in calf and brood mares need a substantial and liberal diet and shelter from storms of rain and snow and bleak winds. Sheds, at least, open to the South, ought to be provided. There is no economy in half feeding colts and young cattle. That is a stunting process, from which they often never recover. It is far more prudent to give them generous rations, so that their growth may not be interrupted.

Sheep ought to have shelters provided for times of rain and snow, but whenever the weather is suitable they should be left in the fields. A little grain and bran ought to be given now; salt and water should not be neglected, while ruta bagas form the best possible feed they can have.

Push fattening hogs rapidly ahead, if they are not already fit for killing. Feed regularly and keep them clean and dry. An occasional dose of salt, ashes and lime is good for them, and so it is for them to have access to charred or rotten wood. Breeding sows ought to be kept in good condition, and the same recommendations apply to them. Poultry should have dry, light and warm quarters, and a mixed diet. Scraps of meat from the kitchen, some milk, scalded bran, may all be given to advantage.

Manures and Composts.—Collect at every opportunity materials for increasing your piles of these. In this connection we copy an extract from a letter in the *Country Gentleman* which contains some excellent suggestions.

I regard a good barn cellar as a very important adjunct to the farm. It is a most excellent place for keeping pigs, being cool in summer and warm in winter. By keeping it closed during the cold nights of winter, the frost rarely enters, and hence the manure can be forked over at any time when needed, or hauled out and spread on the land. The pigs are comfortable day and night, and will fatten, I think, nearly as well as in the fall. The manure is under cover, protected from wind, sun, rain and snow; and if it needs forking over at any time, it can be done always in comfort. Manipulation of this sort can always be attended to on rainy days, and time thus economized. No cistern is needed, as the absorbents—dry muck, straw and other litter—are sufficient for all the fluids which ought to go to the manure cellar. Only the chamber slops from the house are allowed to go to this cellar. The ordinary kitchen slops are used in summer mainly for watering flowers and trees near the house, and in winter are

allowed to soak away on the land at a safe distance from the house and well, or absorbed by a muck pile out of doors. Dry muck will absorb a great deal of moisture, and holds all the gases generated by decomposing animal or vegetable matter, and because of this it will not be offensive, even if quite close to the house. An enclosure made of light poles laid up cob-house fashion, and containing a cord or less of muck, can be used a long time, and, if desired, vines can be grown around it, to make it an object of beauty rather than of ugliness. A few boards over the top will keep out most of the rain, while at the sides no protection will be needed. The wash slops do not contain a large amount of fertilizing matter, and hence to conduct them to the barn cellar, to be emptied all on one spot where they will create a place for pigs to mire in, and greatly increase the labor of hauling and spreading manure, is a practice to be avoided rather than commended.

I use dry muck in my privy vault (the vault being a strong and tight rectangular box, say 5 feet by 2, and about 15 inches deep) and the contents are, about once in two weeks, shoveled out and emptied into the barn cellar. Practically it is an earth closet, as there is a box or keg of muck, with a small shovel in it, for use all the time, and a small quantity of this absorbent suffices to keep down all disagreeable odors, and renders the work of emptying little less objectionable than shoveling earth. The droppings from the hen-house are treated in the same way, and, when not needed for special purposes, also go in the barn cellar to swell the compost heap and increase its value. In this way a very small amount of live stock will make a large pile of valuable manure annually.

Drains and Ditches.—Look at the ditches occasionally to see that they are unobstructed, and take care that all surface drains are kept clean. Sometimes in this month ditches can be dug to advantage.

Stabling and Shelters.—Make at once any additions, alterations or repairs that may be needed. It is unwise and inhuman to expose stock during this severe season, when a very little labor and time would provide them with sufficient protection.

Fences and Gates.—Make any needed repairs in these.

Cotton Seed.

Look well to the cotton seed—so valuable, says the *Southern Cultivator*, that English farmers buy thousands of tons of it every year, and pay freight across the Atlantic, whilst our farmers allow tons of it to lie in the weather and rot, while its costly ammonia passes off into the atmosphere. By all means house it—keep it dry till you are ready to compost it or put it in the drill.

The Importation of Cattle into United States Forbidden.

The Secretary of the Treasury has addressed a circular to Collectors of Customs, announcing that no importations of neat cattle or hides will be allowed from England from this date, in consequence of the prevalence of the hoof and mouth disease in that country.

Guinea Grass.

We find a good deal in our Southern exchanges about this. The *Rural Carolinian* says the Guinea grass, *Sorghum halapense*, is a perennial, with underground stems or rootstocks, (*rhizomas*), by means of which it spreads like Bermuda or joint grass. These underground stems, or "roots" as they are called, are very large and strong, and extend themselves rapidly in every direction. The plant also propagates itself by seeds, so that it will be readily understood that this grass is a good friend.

It is, like fire, a dangerous enemy; and one should consider well before introducing it on a plantation or farm, whether he is willing to give it full possession of a certain part of his land, to have and to hold forever, for he will find it next to impossible to eradicate it; but if he wants a forage plant, good for all time, without replanting, and, on good land, making a heavy yield year after year, this is the thing.

Mr. N. B. Moore, of Augusta, Ga., has one hundred acres of Guinea grass meadow, which once in two years he harrows thoroughly both ways, with a sharp steel-tooth harrow, sows a peck of clover seed to the acre, and adds a fertilizer, consisting of one hundred pounds of gypsum and an equal weight of the best commercial manure to be had, to each acre. He gets a crop of clover in the spring, which has grown while the Guinea grass was dormant; when the latter comes on, and is cut several times during the summer, yielding a heavy return for the little labor required in its culture.

There is said to be a "Guinea grass," like the one here described in every respect, except in being seedless. We have never seen it. Roots have been sent us purporting to be of this seedless kind, but the plants produced seeds here. Possibly the same plants, growing in a more northern latitude, would have produced no seed.

Another Guinea grass, formerly grown here in the coast region of South Carolina, and lately re-introduced from Jamaica by way of Florida, is *Panicum jumentorum*. This has the advantage of being easily gotten rid of, when no longer wanted. It grows in clumps or stools, like wheat, and we have now in our yard a "stool" from a single seed, consisting of more than fifty stalks. It makes, on rich soil, an immense growth, and may be frequently cut. For the lower South, this may prove to be one of the most valuable of the large grasses, but our experience with it is too limited to permit any more positive statements in regard to its value. Seed of it is very scarce, at present.

Dr. Pendleton's "Scientific Agriculture."

We notice, with pleasure, that this work has been adopted as a text-book in the Massachusetts Agricultural College, and in the universities of Michigan and Mississippi. It was prepared for the use of the professor's own classes in the University of Georgia, and we believe is not in the hands of the trade, but may be had upon application to Dr. P. at Athens, Ga. The price is \$2.25.

Horticulture.

The Maryland Horticultural Society.

The November meeting was held in the cafe of the Academy of Music, and was fairly attended. The show of *Chrysanthemums* was not large, the deficiency being largely due to the cold nights having injured those grown out of doors. Mr. James Pentland had 17 kinds in pots and received the first premium; Mr. T. V. Brundage had 44, and Mr. E. Whitman 13 varieties of cut flowers,—receiving respectively the first and second premiums. Mr. W. D. Brackenridge had fine plants of *Epiphyllum truncatum* in profuse bloom, which received special mention.

Mr. Wm. H. Perot, the new president of the Society, made some remarks thanking the members for the honor conferred upon him in his election, and asked the hearty co-operation of all in promoting the objects of the Society.

Mr. E. Whitman, the late president, submitted a written statement of the operations of the Society, and making suggestions concerning its future management. He was thanked by the Society, and the paper ordered to be preserved among its records.

A communication was read from the chairman of a committee of the Maryland Academy of Sciences, asking the appointment of a committee of conference on the part of the Society to consider the expediency of taking means to establish a Conservatory or Botanical Garden in Druid Hill Park. On motion it was decided to appoint such a committee, and Messrs. August Hoen, B. A. Vickers, W. W. Spence and President Perot were named as composing it.

Mr. August Hoen read a paper on the best means of promoting a taste for horticulture with the general public. He argued strongly against the practice of permitting vagrant cattle on the roads,—this being the greatest obstruction to horticultural improvement, especially in rural or suburban districts. He thought in cities the public parks should be made examples of good flower gardening. An abstract of this admirable paper will be found in another place in this issue of the *Farmer*.

Mr. W. D. Brackenridge spoke, emphasizing the suggestion of Mr. Hoen that all strolling stock should be kept off the public roads, having himself suffered largely from these encroachments.

Mr. James Pentland concurred, but thought the work ought to begin in Baltimore; that the city should take the railings from around all public squares and plant them with flower beds,—that the people, and especially the children, might be educated to respect them and induced to admire and love them.

A vote of thanks was given Mr. Hoen, and, upon motion, a committee was appointed to consider the propriety of the Society memorializing the legislature to enact a general law prohibiting vagrant stock on the roads, and report at the December meeting. The committee consists of Messrs. August Hoen, Edmund Law Rogers, E. Whitman, Wm. D. Brackenridge and Wm. B. Sands.

A paper from Mr. Feast, on general topics of Horticulture and offering suggestions for the Society was read by the Secretary, its author not being present from sickness.

The subject for consideration by the Society at its December meeting will be *Evergreens*, and Mr. Brackenridge will read an introductory paper. In January *Camellias* will be discussed, and Messrs. James Pentland and John E. Feast were requested to prepare essays.

Sap-Suckers in Orchards.

Messrs. Editors American Farmer:

We are not well posted in ornithology, but we have always been friendly to the sweet songsters of our groves, and appreciate their services in the destruction of injurious insects wherever found. We would especially encourage and protect the blue-bird and the pewee, neither of which touch fruit, but live exclusively on worms and their larvæ; the wren, the cat-bird, the native sparrow, red-bird and even the robin, although his character at the north is detestable (where they are very numerous and destructive in fruit time,) is our friend here. The robin, with us, is one of our very best songsters—he lives mostly on worms and larvæ, and what few cherries he may prefer as a change of diet we never miss.—There are many other birds friendly to the orchardist and farmer, indeed nearly all the small birds; but the sap sucker (*sphyrapicus*) is, however, in our opinion, an unmitigated nuisance, and particularly destructive in our apple orchards. He prefers those trees that bear the sweetest fruit,—for the reason, we suppose, that such trees have the sweetest sap. We have rarely seen the trunk of a tree bearing sour apples molested, whilst those of the former description have been perforated and mutilated to an extent really injurious both as to health and appearance. The time usually selected for the perpetration of these injuries is late in the fall; although at any time in the summer they may occasionally be seen at work. Of course, during winter they cannot get sap, but they can, and probably do, get the tender bark. They may also subsist during winter on worms and larvæ caught from forest trees, which may be beneficial, as far as timber is concerned.

In Illinois sap-suckers are placed under indictment by orchardists; the charge is that they peck the bark of the apple tree for the purpose of eating it, thereby greatly damaging the tree, and not for the purpose of catching the worm. The proof they think is conclusive, as he pecks and tears away the bark where it is most fresh and succulent, and not in rough and curly places where worms do congregate; and worms are left unmolested.

We know of no remedy for this destructive intruder but the shot-gun in our orchard, loaded with fine shot. We do not recollect at this time that we have any grudge against any other of our feathered frequenters of the groves and orchards. Birds in Virginia are not sufficiently numerous, if so disposed, to do much damage to our fruits.

The sap-sucker may be known from the common woodpecker by the outer tail feathers being white, while the latter has only the central tail

feathers white, and is rather a larger bird, and is one of our most valuable friends in the way of destroying codling moths and apple-tree borers. The red-headed woodpecker, however, is a very great cherry-eater.

J. FITZ.

Kenwick Depot, Albemarle Co., Va.

On Promoting Horticultural Taste.

Mr. Hoen, in his address before the Maryland Horticultural Society, said it was not difficult to say what are the obstacles to the successful introduction of horticultural pursuits among our people.

One of them is inadequate legislation, which forms one point for consideration. I allude to the absence of an effective stock law, which the legislature has neglected to give us, notwithstanding our representatives were frequently petitioned to that effect by the people of Baltimore county. For some reasons, best known to themselves, they have never responded favorably to the just and fair demand of their constituency, to be relieved from the annoyance and great injury to which they and their properties are continually exposed, from the fact that cows and all kinds of stock are allowed the liberty and full unmolested range of the country.

At all hours of the day and night these disturbers of the peace and intruders on homesteads may be expected to enter your property by any accidental opening or weakly-guarded spot, and destroy in a few hours, or even minutes, what it cost you years of anxious toil to raise. These cattle are "brought up" on the public road, and are expected to find their living there. They are exceedingly clever; open gates, unfasten latches, and all so adroitly there is scarcely any security against the invaders.

Large tracts of land in the suburbs, lately opened by streets and avenues, and with praiseworthy forethought and enterprise, planted by the proprietors with shade-trees—anticipating the charms they would bestow on the sites for future cottages and rural residences—but these attempts at embellishment have all proved futile, and fallen a prey to the custom permitting indefensible and wanton destructiveness.

Experience of this kind is not calculated to promote the beautifying of our villages and suburbs by landscape gardening; but has engendered a spirit of insecurity and distrust, so that no one will risk anything in the embellishment of his premises by plants and flowers, unless they are proof against depredations of man and beast. Of man, too, because the loose coat of justice and the reprehensible practices which go unpunished have so blunted the moral sensibilities of a portion of our people, that pilfering the productions of the garden and orchard is looked upon as a sort of privilege, springing from long usage and custom. Even in the city of Baltimore, it has long been by the authorities thought necessary to protect every public square and plot of turf against trespassers by a high iron railing, which is itself too often their principal adornment, but which serves no other purpose than to shut out the sight of the green turf, the only redeeming feature they possess.

An effective way to promote horticultural art is to have good and extensive public examples of

it, and it is one of the chief objects of societies like ours to stimulate the spread of horticultural taste and knowledge through the whole community. Yet all the influence it can bring to bear will not be sufficient to popularize this taste with the great mass of our people, unless opportunities are afforded of reaching public sentiment and engraving upon it examples of aesthetic culture.

No better way offers to do this than to make our public parks exhibit to the public the wonders of horticulture, and the beauties of floral decoration, as produced by masses of color and groups of magnificent foliage. Let them serve to display the great variety of indigenous and exotic flowering shrubs and trees which will flourish in our climate, each one labelled with its botanical and common name and the place of its origin, and even its order and genus.

These features introduced into our parks would be found great attractions, and would inform and educate a class of people difficult to be reached in any other way; but such a scheme could not be carried out while the deer in Druid Hill—those "sacred cattle" of the Park Commission—are doing there, and as effectively, exactly what the common vagrant cows are accomplishing for the suburbs. Small evergreens surrounded by post-guards to protect their feebleness; mutilated older specimens; young saplings tied up in splints and bandages; convey rather the idea of a hospital where some great experiments in surgery are being made, than of a spot consecrated to the enjoyment of nature.

No shrubs or flowers can be thought of as long as these animals have free range, yet it must strike every observer with an average æsthetic perception, that parterres of flowers or bouquets of shrubbery inserted in appropriate places on the smooth lawn, or in projecting bays at the turns of walks, are ornamental features that should not be wanting in a complete picture of landscape gardening.

The improvements suggested would cost, too, not more than the appliances used to prevent injury to the park property from the deer, which, if we must have them, ought to be restricted to an allotted portion of the dense wood and restrained there.

Fruit Notes from the Eastern Shore.

Messrs. Editors American Farmer:

Truly this has been a fruitful year—a year to learn—one freighted with important lessons to fruit-growers in Maryland as well as elsewhere. And just here I would inquire, what is the matter with the jovial pen of the keenly observing Massey? Surely he has much in store for the readers of the good old *Farmer*. Col. Wilkins, we know, has been busy, but I hope to see several good and sound lessons from his pen on the subject of peaches. And how about "deep holes" for trees? Is "L. W. G." convinced? Mr. Fitz says in Nov. No., that it is his opinion "clayey soils deeply moved," &c. &c., "are promotive of hardiness, keeping quality and profuse bearing." This sounds like "expending much horticultural sweat," &c., previously spoken of by the same able writer; but it don't fit. Several parties in this county are digging

up portions of their peach orchards; they think they *planted too deep*—(in point of numbers.) The *truth* is, many of them should not have planted at all, because they don't give the attention to their orchards necessary to bring them to even the average of *fair* trees; but aside with that, and I will try to pen you a few notes, on the merits of a few varieties of grapes.

A little over two years ago I saw an advertisement in the *Fruit Recorder*, of the "Worden's Seedling" grape; representing that this variety was a *week* earlier than the Hartford Prolific—larger bunch and berry, better quality, &c. *Vines one dollar each*; (this last clause, I presume, was only put in to make the advertisement interesting to its *readers*.) Accordingly, a small portion of the "much needed" was remitted. Vines promptly sent in return. And this year those vines fruited. Worden's Seedling and Concord, to my eyes and taste, were as much alike as two "branch herring."—fruit, foliage and growth of vines, being duly considered. Fearing that a mistake had occurred in sending me the vines, I wrote to Chas. Downing, Esq., for information regarding this "very early and valuable" grape (???)

'A seedling of Concord so closely resembling its parent, that close observation is required to distinguish between the two,' was the tenor of his reply. I would not care for the "bite" had it not been the *editor* of the aforesaid paper.

Next I would like to know, if the Champion is Tallman, who is responsible for the change of name? This grape ripened for me, a few days in advance of Hartford; large, compact clusters, berry about same size and color of Hartford, but not nearly so good in point of flavor.

Senasqua, this season, was as vigorous in growth, and as fine in fruit, as heretofore, while Walter exhibited marked feebleness in both respects named. Wilder, Agawam, Salem, Merrimac, Rogers No. 33, Martha and Ives Seedling, behaved themselves with much credit, making large growth, and ripening the wood to the tips of the canes, while Iona shows up characteristics of the old Catawba, viz: short in growth of cane, and wood badly ripened. Croton, in appearance, was far more attractive than the others, large shouldered clusters of small-sized berries, the main stems of clusters being red, a pretty contrast was thus formed with the white berries; growth strong and canes well ripened. Eumelan was a perfect failure, so far as fruit goes; it bloomed profusely, but did not set fruit,—the largest bunches of blossoms setting not more than half a dozen berries, and the few that ripened were weak and flat in flavor.

"EASTERN SHOREMAN."

A Fruit-house in the Open Air.

Messrs. Editors American Farmer:

Under this title the *Moniteur Horticole de Belge* describes a process of keeping apples very simple and inexpensive, which is taken from the *Maison Rustique*:

"Choose a dry place, naturally protected by trees, evergreens preferred, and then place the fruit in a conical heap that we cover with leaves in the proportion of twice the bulk of the leaves to one of fruit.

In these conditions the apples in contact with the soil receive a moderate and uniform heat; the leaves keep out the cold and water, being maintained in place by the trees, which protect them from the winds. Experience has shown to the correspondent of the *Revue* above named, that fruits preserved in this manner are in better condition in the spring, decidedly more fresh than those wintered in the ordinary fruit-houses."

The editor remarks: "Without having employed this process, we do not hesitate to recommend it, from the facts that we ourselves have found many times, and which have not escaped the observation of our readers. It is not rare for those who have fruit gardens, or who dwell in the country, to find concealed under some leaves only, fruits (pears or apples) very well preserved, better even than others for which great care has been taken; besides, this plan comprises the essentials for keeping fruits, the most important of which is protection against atmospheric variations. Again, not only are they better preserved, but they are more fresh and firm, which is due to the almost complete absence of evaporation, and hence their tissues are swelled out full, like freshly-gathered fruit. The economy of this plan is another important consideration.

His concluding remark is, "that fruits are very abundant this year, and we should not hesitate to try it for fear of loss, as we might do if the fruit harvest was scant. We need not fear to be prodigal when we use only the excess of our riches."

NOTE.—The principles of preserving fruits during the winter are the same, whatever may be the *modus operandi* of meeting the indications. It is not sufficient to say "protection against atmospheric variations" of temperature, moisture, &c, but the conditions of success appear to be "the sameness or equality of a low temperature of air surrounding the fruit, and this air at rest to prevent evaporation. The peculiar power of the soil itself in preserving vegetable structures from decay, although constantly used, has been but little studied or appreciated by farmers in general."

A New French Potato—Delices de Meaux.

The editor of *La Revue Horticole* gives a notice of nearly two columns to this new seedling Irish potato. The following three qualities he accords to it: "Earliness, quality and productiveness." This Irish potato, which is the result of an artificial fecundation made by M. Quetier, horticulturist at Meaux, was obtained from *La Marjolain* (earliest kind grown in France, and said to excel the Early Rose) fertilized by the *Long Violet*, two as good parents as one can find, nevertheless the child excels both. It resembles most in external appearance the mother—*La Marjolain*. It is, however, much earlier (by about 15 days); its stems are shorter, furnished with fine broad leaves, rounded smooth and shining; it is also much more productive. As to qualities, it partakes also of those of both its parents; it has nearly the form of *La Marjolain*, but its flesh is finer, more dense and less watery; it is also more yellow. In these respects it resembles the *Violet*, to which it is, however, superior. Another quality of this new seedling is, that while of all potatoes it is probably the earliest, it germinates relatively late."

The editor then states that it is a fine table potato, and the qualification "*Délices*" could not be better applied.

NOTE.—While for late and winter use "yellow fleshed" Irish potatoes might not take with the masses and sell well in market, we presume the objection would not apply to so great an extent to the early crop. Ten or fifteen days with our potato-growers in Virginia in marketing the crop in average years, makes all the difference between a good profit on the culture and heavy loss. As our American seedlings have found their way to France, we hope that some enterprising seedman, such as Bliss or Landreth, will give us an opportunity to test "*La Marjolain*" and "*Délices de Meaux*," as to earliness in our climate and soils, with the kinds we have grown without any direct profit in Virginia for northern markets in an average of six years. The French editor says of the "*Délices*," "that it is a variety without exception, which we are confident will be called to a brilliant future." NANSEMOND.

Suffolk, Va., Nov. 15, 1875.

Early Pears.

Josiah Hoopes, in the *Horticulturist*, says none doubt these sell freely and command a good price when of first-rate quality, although their unfortunate habit of decaying quickly at the core, requires them to be marketed the moment they show signs of maturity; yet the fruit to be profitable must be handsome and excellent, and the art of ripening must be understood.

Beurre Giffard has a delicious flavor and handsome appearance; Bloodgood is of rich, melting texture and fine appearance; productive and an early bearer. Dearborn's Seedling is of small size, which is compensated for by its waxy appearance, yellow color, and sweet, melting, juicy flesh. Doyenne d'Été is the embodiment of excellence, and of unsurpassed beauty when perfectly ripened. Julienne is not among the earliest, but among the very best, requiring a rich soil to insure perfection. Madeline is of fine quality, but soon decays. Manning's Elizabeth is beautiful and good, and so is Osband's Summer. The Ott is a fine summer pear, and the Paddock, though not of high quality, is sweet and good. Rostiezer, not a very early pear, but in flavor one of the very first; the tree is an uncouth, irregular, but strong grower, though generally healthy.

Around Baltimore, most of these varieties do well. President Perot esteems most highly of early pears Beurre Giffard and Manning's Elizabeth. Mr. A. Hoen brags on his Juliennes. We do not grow Giffard, but we endorse our friend Hoopes on the Manning's Elizabeth and Doyenne d'Été.

American Crab-Apple.

The London Garden has had sent to it the fruit of this variety (*pyrus coronaria*), which it says would be worth attention if it had no other merit than being ornamental; but it is eatable, the flesh being sub-acid, brisk and juicy. It is described as a charming little apple, very perfect in shape, and having a clear yellow skin, beautifully mottled and streaked with red.

Virginia Fruits at the Centennial.

We are in receipt of a copy of a correspondence between Mr. G. F. B. Leighton, President of the Norfolk Pomological Society, and Mr. Franklin Davis, President of the Va. Horticultural Society, concerning the securing of an appropriation from the Legislature of Virginia to have the fruits of the State properly represented at the Centennial. Mr. Leighton thinks \$3,000 would be the smallest sum possible to be done with, and that \$5,000 "would do better justice to our State, as the fight with the West for leading honors will be lively," where "the whole civilized world will be the judges." Mr. Davis concurs in this estimate and promises to urge the appropriation. Mr. Leighton very pertinently said, in laying this correspondence before the Norfolk Society, that this "exposition necessarily becomes the most perfect advertising medium that it has ever been the privilege to enjoy in convincing the immigrant of her real productiveness." Ought not something to be done in this respect by Maryland? We think our Horticultural Society might make arrangements for a respectable display of Maryland fruits. We have nothing to be ashamed of in that direction.

The Last Peach Crop.

The *Wilmington* (Del.) *Commercial* gives tables of shipments during the season, showing the crop to have been the largest ever known, and nearly as large as the aggregate of all the crops since 1870. The total shipments were 8,782,716 baskets, of which Baltimore received by water 1,887,000; there were consumed in Delaware canning and drying houses, 325,000; in Eastern Maryland, 257,000; consumed in Delaware distilleries, 125,000; in Maryland do, 100,000. The aggregate profit of the crop, after freight and commission were paid, is put down at \$1,693,941, but from this is to be deducted the cost of picking, handling, and crates and baskets, which will leave \$753,944 as the net profit from shipments by rail and water. Add to this the receipts from deliveries to canneries and drying houses, \$130,000, and for brandy yet to be sold, \$135,000 more, and the net returns from the marketed crop of 1875 will be, according to the *Commercial*, \$1,018,944. This gives an average of only about 11½ cents per basket.

The "Amazon" Raspberry.

A correspondent of the *Gardener's Monthly*, at Hammonston, N. J., writes in this way of this berry:

A new red variety, from Edesville, Maryland, claimed to be 300 or 400 per cent. more productive than any other variety, and as large as a Wilson Blackberry. I have only tried this one summer, but it produced a few berries, and both in habit of growth, appearance, and quality of fruit, is so near like Belle de Fontenay, that I am inclined to think them identical, although I have thrown out the latter, and cannot compare them so fully as if both were growing together.

THE BROCKWORTH PARK PEAR, lately introduced, is thought by some of the English pomologists to be the same as the older *Bonne d'Ez'e*. Mr. Robinson, of the *Garden*, says specimens of the two sent him are identical, and that the flavor is good and delicate, but rather watery. The *Bonne d'Ez'e* does well near Baltimore, and deserves a place in amateur collections. Mr. R. S. Emory, of Kent, has discarded it as a market variety.

Floriculture, &c.—December, 1855.

By W. D. BRACKENRIDGE, Florist and Nurseryman,
Govanstown, Baltimore county, Md.

At this season of the year, a collection of well-grown *Chrysanthemums* has an excellent effect, filling up a gap at a time when flowers are usually scarce, and stand as good forerunners of the *Camellia*, *Calla Lily*, &c.; so soon as the blooms have faded, cut the plants down to the pots, and place them in the cold frame.

In a former paper we cautioned the operator against the keeping up of a high temperature in early winter,—say about 45° during the night, and then allowing it to rise to 60° during the day,—and, when moderate weather prevails, a gentle syringing overhead in the morning, and the admission of a little fresh air, is highly conducive to the well-being of the plants; observing, at the same time, not to saturate the roots too highly with water, but paying attention when it is given, that it penetrates the ball to the bottom of the pot.

When *Verbena* cuttings are fairly rooted, pot them off singly into 3-inch pots; some people put 4 to 6 plants into a pot of this size at this season, and then, in spring, separate them; this last method takes up less room during the winter. Seedling *Pansies*, after they have made 4 or 5 leaves, do better if removed to a cold frame or pit, when they can either be grown in pots, or planted out in a bed of rich loamy earth; when treated in the latter way, the largest flowers are produced.

Do not permit the roots of young *Mimulus*, *Cinerarias*, *Calceolarias* and Chinese *Primroses*, to become matted in the pots, before shifting them into larger ones; and with *Geraniums*, wanted to bloom in early spring, pursue the same practice; *Calceolarias* and *Mimulus* thrive best in a cool part of the house, while the Chinese *Primroses* require to be kept warmer and near to the glass. *Mignonette* does best when it receives a good supply of light and a moderate quantity of water.

Heliotropes, *Begonias*, *Coleus* and *Epiphyllum truncatum*, if placed in the warmest situation the house affords, and supplied occasionally with a weak dose of liquid manure, will amply repay you for all the trouble.

We would remind the gardener and plant amateur who have a greenhouse under their control, that, if industrious, they can, during the winter months, in some quiet corner, raise many young plants from seeds and cuttings, that will be found very useful in the decoration of the outdoor garden; and then think of the pleasure that would follow, by presenting a few to some

loving friend; we long much to see people evincing their liberality in this direction.

Camellias will now be advancing into bloom, when they should be kept moist at the roots, and very little water overhead, as the white kinds, in particular, are injured by it, and on a former occasion we stated that a dry heat would make any of the kinds drop their buds, before opening; therefore, let the atmosphere be on the humid side. We would also remind the careless ones, that fumigations of tobacco will frequently have to be resorted to in order to keep the green fly in subjection.

Lawn and Pleasure Grounds.

This is a good month to make a general survey of all deciduous trees on your premises; some may want pruning, others that are infringing on their neighbors should be cut out altogether. There may be some specimens which are wanted for another position, and, to effect a safe removal, a trench should be dug all round the tree, so as to somewhat undermine the ball, which should be from 3 to 6 feet across, according to the size of the tree; the trench should be kept free from water, and filled with straw or brush, so as to keep the ball entire, but to be removed so soon as hard frost sets in, so that the ball may freeze hard enough to be handled without parting. Trees 30 feet high can readily be moved by the use of a low truck or sled; but the holes in which to plant ought to be opened in thaw weather, observing to have the earth covered with straw or rough manure, so that planting can be performed at the suitable time.

Evergreens can, during the winter months, be moved in the same way with perfect safety.

We often see flower beds with the decayed stems of plants standing on the ground over winter. No orderly person should permit this. The straw of herbaceous plants ought to be cut over 6 to 8 inches above the ground, and the stems of the annual ones pulled up by the roots, then the ground should be dug over, leaving the surface rough, so that the larvæ of insects may more effectually be reached by frosts. If your flower grounds are wet, they should, by all means, be drained; good underground drainage is about as essential to good flower-culture as is the application of a compost of well-decomposed stable manure and leaves from the woods. This latter should be incorporated with the soil in spring, before planting.

If tender plants and shrubs have not yet been furnished with a winter protection, this should be attended to at once, although we do not think it judicious to cover up early, as plants do not suffer so much from early winter as spring frosts; then the changes from cold to heat is more sudden. A covering of 2 or 3 inches of dry leaves, with a sprinkling of stable manure over, to keep them from blowing away, answers very well for herbaceous things; and for tender shrubs, a casing of cedar branches just close enough to shut out the rays of the sun, while inside of this casing some leaves ought to be put; but it is shade that is wanted, more than a dense heap to keep the cold out. As a general thing, cold frames do not receive enough of air during the winter months. On every fine day the sashes should be tilted up, or drawn down, and in very cold weather they require to be covered with

mats, or shutters, while the sides should be protected, as high up as the sashes, with a thick bank of earth, leaves or stable manure.

All bulbs of *Gladiolus*, *Tiger-flowers*, and *Tuberose*s, should be frequently examined during the winter, to keep them free from mould. It is necessary to have them in a dry temperate atmosphere. Remove from the cellar or cold frame to the greenhouse, all pots containing *Hyacinths*, *Tulips*, &c. The different varieties of *Crocus* are pretty little things with which to adorn the parlor and conservatory; but above all, do not forget to take under cover a few pots of sweet-scented *Violets*.

Answers to Floricultural Inquiries.

Messrs. Editors American Farmer :

I fear that the writers of sundry letters full of horticultural inquiries, are getting tired of waiting for answers in the *Farmer*. I little thought, when my last was written, that it would be so long before these articles were renewed. Now so much matter has accumulated that I hardly know where to begin.

Daphnes—Pelargoniums—Fuchsias.

A lady in Virginia is informed that her *Daphne* has turned yellow, probably from over-watering. The best thing to be done with it is to wash out from the earth and repot in a small pot. The chances are against it, as a *Daphne* once sick will ever afterwards look shabby. Plant your *Hydrangea* out doors in a semi-shady place. The new *Hydrangea Paniculata* is the best of all the *Hydrangeas* for general cultivation. It is as hardy as an oak and makes a large shrub eventually, though it blooms its immense snowy heads when but a year old. The *Pelargoniums*, known as "Fancy" or "Lady Washington" geraniums, should be kept in pots and not planted out. About the first of August cut them down to within a few inches of the pots. Keep dry until some new foliage appears; then turn them out and wash away the old earth, and repot in as small pots as will contain the roots, using a lumpy fibrous loam. Do not over-water at any time. Keep them clear of green fly, and pinch back the shoots until about first of March, when they should be shifted into their blooming pots. A six-inch pot will accommodate quite a large plant, and the bloom will be better if somewhat confined at the root. *Fuchsias* will bloom better and earlier in spring if allowed to go to rest during autumn. The best place for them at that time is a cold pit. About first of December bring into the greenhouse or warm room and start gradually into growth. Keep them free from dust and red spider by frequent sponging or syringing of the foliage, and let the soil for them be richer than for most other plants and you will have no trouble. It pays well to char all the manure used in making compost for *Fuchsias*. This can easily be done with a large piece of sheet-iron elevated on bricks so as to build a fire under it. *Crape Myrtles* ought to be perfectly hardy, we should think, in Rockingham county, Va. They are seldom, if ever, injured here, and there are numerous specimens in this neighborhood not less than fifty years old. The *Akebia Japonica* planted in a stiff soil under drip of the

eaves could hardly be expected to grow much. It will do much better in a dry situation and a sandy or gravelly soil. It is perfectly hardy.

New Roses.

What about new roses? writes one who, in his adopted home, remembers the grand shows of England. So far as we have observed, with few exceptions the "new" roses "are not good and the good ones not new." There are some of the more recent introductions that are worth growing. The best white tea rose we have seen for many a day is *Mlle. Rachel*; the buds are pure white and as large and full as *Marechal Niel*. *Cheshunt Hybrid* came out with a great flourish; it grows finely, but so far we have not had a bloom. *James Sprunt* we wrote disparagingly of some time ago. We take it all back. It is decidedly the best crimson Bengal rose we have, and will make a fine pillar rose. *La France* is a magnificent rose, and is getting very popular. There seems to be some difference as to what class of roses it should be placed in. It is usually classed as a *Hybrid Perpetual*, but we are more inclined to call it a *Bourbon*, with a strong cross of *Tea*. Its color is an indescribable tint of satiny rose almost white on the upper side of the petals; size very large, and as constant in bloom as a *Bengal*. *Belle Fleur D'Anjou* is, too, much like the old *Madame Russell*. *Emily Dupuy* is a splendid tea and a good grower. *Madame Willermoz* is a grand rose, almost white with a peculiar shade of blended cream and salmon, a very large and full rose. *Reine du Portugal* is a good rose under glass, but in the open air it mildews horribly, and its immense flowers open badly, and when open have the crumpled appearance of the centre of a *Gloire de Dijon*. Its color is copper, shaded to orange at the centre. *Madame Brest* is a very large double rose with a rich damask odor, a good grower and free bloomer; color, carmine rose. *Madame St. Denis* is old *Madame Russell* again. *Marie Sisley* is a splendid rose, bud large and full, deep flesh with a carmine tint. *La Nankin* is a good yellow but rather "peaked" in the bud.

Bedding Plants.

However, if I go to this length with all my answers I shall write your December number full and not get through. "Tell us your experience with some of the new bedding plants." There is room there for a full article on this text. Among geraniums the past season, there has been nothing introduced that is any improvement as a bedding-plant among the green-leaved *Zonals*. There were some grand flowers among the *Zonals* imported in 1874, but without exception they are worthless as bedders. For pot culture nothing can be finer among scarlets than *Phœbus*, *Richard Cœur de Leon*, *Peter Selby*, *Rev. A. Newby* and *Father Villiger*, while *Horace Greeley* and *Heartsease* are of an entirely new shade of crimson lake.

Mercy Merrick is the finest salmon geranium we have yet tried. Among Golden Bronze geraniums there has been a decided advance. The newer varieties of this class not only stand the sun well but absolutely require our full sun for the proper development of the rich color of their foliage. The following are the best Golden Bronzes for budding: *Riverbank Beauty*; *Mrs. Harrison Weir*, *W. E. Gumbleton*, *Harrison*

Weir, Sunland, and Mrs. Maggie Hudson. Dolly Varden is a splendid golden bronze ivy-leaved variety for culture under glass, but becomes plain green in warm weather. The Double Blue Lobelia, introduced last spring, we find to be a very fine plant for a dwarf edging. Our plants bedded out the past spring were perfect balls of blue until the excessive wet of the past summer scalded out a great many. We set it down as a first-class dwarf-bedding plant in ordinary seasons.

More Geraniums.

In speaking of geraniums I forgot to mention a double variety introduced several seasons ago, but which seems to have been unaccountably overlooked as a bedder. This is "Sapeur Pompier." We bedded it out for the first time the past summer, and no geranium of the color either single or double ever equalled it for us. The beds were covered during the entire summer with its enormous trusses of glowing scarlet. Many of the trusses were five to six inches in diameter. Among white bedding geraniums the much-abused Aline Sisley is decidedly the best of any, either single or double. The uniform dwarf growth of the plants and the profusion of bloom makes a bed of them exceedingly attractive. Among the newer double geraniums we find *Le Negre* (dark carmine) and *Asa Gray* (salmon) are fine bedders. *Francois Portusati* is a bright rosy salmon at the centre, shading to white at edge of petals,—a great improvement on *Alice Crousse*. *Talabot* is perfectly gorgeous with its magnificent trusses. In color it is also entirely new—a glowing carmine shading off to bright magenta. The last two varieties having but just been imported, we have had no opportunity to test their bedding qualities.

Dahlias.

Among Dahlias there has not been any great advance; in fact, it would be hard to improve the shape of the standard sorts either of the large or small-flowered section. Among the pimpine varieties the most useful is a very dwarf sort, not growing over two feet high, with pure white flowers about the size of an old silver dollar. This is called "Guiding Star." It is not new but is still quite scarce. *Riverbank Gem* is a very perfect pimpine Dahlia of a clear bright rose color, a rare shade in Dahlias.

But I am making this too long, so I shall have to beg my friends to wait a little longer and I will try to be more punctual in future.

W. F. MASSEY.

Riverbank, Chestertown, Md.

Zonal Geraniums.

Messrs. Editors American Farmer :

If I were asked what flower next to the rose would be most missed in this country, I would say the *Zonal*, or, to call it by its common name, the *Fish Geranium*. As a flower for the window, greenhouse or open ground, it is unsurpassed.—Easy of propagation, easier of culture, doing well in almost any dry soil, very clear of insects, it is peculiarly the people's flower. No plant stands the dry atmosphere of a room equal to it; but to bloom it well, it should have plenty of

sunshine, otherwise it will grow tall and slender, and give but few blooms.

We have them now of all colors, from pure white to the brightest scarlet and darkest crimson, spotted, striped and fringed. We have them also with double flowers and leaves beautifully marked with brown, white, crimson and gold. One of the finest sights that I ever saw, in the way of flowers, was a bank of *Zonals* at Clifton Park. They were well cut down and a perfect mass of bloom, standing well above the dark-zoned foliage, and the intermingling of the various shades of color was truly beautiful.

They can be kept over winter in a dry cellar free from frost. A good way is to set the plants close together in a box and cover the roots with perfectly dry sand or soil. This will keep the roots from rotting off or drying. Cut them down in the spring, and they will make fine plants for the open ground.

There is great improvement of late in the manner of growth. Some of the new varieties, both single and double, are very compact in growth, and not near so liable to be broken by high winds. They do better in a rather stiff soil, and not too rich. The great number of varieties named in florists' catalogues render it almost impossible to make a moderate selection, and parties ordering, without they are very well posted, would do far better to leave the selection to the florist.

CEDAR MOUNT.

How to Make a Beautiful Hanging Basket.

Mr. C. M. Hovey writes the *Garden* that as a basket ornament the *Myrsiphyllum Asparagoides* or "*Smilax*" is the most charming of plants, and this is the management he recommends of this pretty vine for that use: "To grow it well in this way three roots should be planted, in July or August, in one of the rustic baskets so much used; the basket may then, for convenience, be placed on the ground, in a half-shady position, and watered freely. Then attach three strings, six feet or more long, one for each plant, to the basket, and fasten the other ends at the top, at a good distance apart, to keep them from running together. Here let them grow till just before frost, when the shoots will have reached the top; then loosen the strings at the top and twine them in any form, either up the handle or round and round; cut and pick out the strings; suspend the basket in a cool room, and you will have constantly before you an object, the beauty of which will never pall upon the senses, but will increase with the growth of the plants. All winter it will be a delight to you as it was to me during one of the coldest snow storms of January last, when visiting Mr. Hunnewell's place at Wellesley. Overtaken by the storm, I stopped at the village hotel to dine, and two baskets of the *Myrsiphyllum* were suspended at each of the dining-room windows, which were white with driven snow, and the green of the foliage was intense and glowing and gracefully disposed round about them. Warmth is necessary to grow it, but when hardened off, it is almost evergreen,—a temperature of 45° being ample to preserve and keep it fresh for a long time."

TWO GOOD PLANTS.

We give below cuts of two plants, both of which are very useful. The one on the left, the *Tritoma uvaria*, is a stately, vigorous plant, sending up strong flower stems four or five feet high, surmounted by a spike of curious and showy red and orange flowers, a foot in length, and from its supposed resemblance (says Vick, in his *Floral Guide*,—from whom we get the well-drawn engraving,) to that domestic implement, generally known as the red-hot poker. It flowers late in summer and continues until winter,—being well adapted to forming large beds or groups, the numerous flame-colored racemes being stately and striking. The plant is hardy, but in this latitude it is better to have some coarse litter put over the roots. A conspicuous and effective bed is made by a strong clump of Elephant grass (*Erianthus ravennae*) in the centre, surrounded by a circle of Tritomas.



as the sun, not the cold, injures it.

The cut on the right shows a plant of ivy, trained in a pot. Most of our readers are familiar with it as an outdoor plant; but besides its uses there, it is for indoor winter decoration unequalled. It bears hardships and ill usage that would destroy almost any other plant. Owing to its thick leaves and hardy constitution, it lives and thrives in the dust of rooms, which is the great drawback to most other plants. The engraving shows a good style of training out-of-doors; it should not be planted in Southern exposures,



A Promising New Rose.

M. Joseph Schwartz, the well-known rosarian of Lyons, is sending out this fall a new hybrid perpetual rose, *Duchesse de Valambrosa*, which is described in enthusiastic terms by those who have seen it. It is a seedling from *Jules Margottin*, of luxuriant growth, and "very remontant." The flower is large, erect, firm and well-made, with a firm peduncle of an elegant form; it is a delicate rose, with a darker centre, passing afterwards to white,—thus producing a remarkable effect as to colors. It has already taken a medal of the first class at Lyons and Geneva.

Magnolia Leneel.

The *Revue Horticole* thinks this, without doubt, the most beautiful sort of the species. Its hardiness is well tested, its foliage is neat and ornamental, and its beautiful flowers are large, of a deep dark red color, and perfect form. Add to this that its fruit is in autumn of a beautiful coral red, producing a very fine effect, and that it generally gives a second flowering in August, and the merits of Leneel's Magnolia will be appreciated. This variety is making its way in the United States and can probably be had of the advertisers in the *Farmer*—Messrs. Brackenridge, Corse, Cromwell and others.

Single Dahlias.

Mr. H. Cannell, the well-known florist, writes the *Garden* that of his $1\frac{1}{2}$ acre of Dahlias planted out to prove whether they are true or not, he has nothing so conspicuous as *D. Coccinea*, the first of the family introduced. It is of a neat dwarf growth, and blooms most profusely, and it is his intention to plant it largely for bedding, for its color is bright and showy and its height not more than eighteen inches.

The Use of Fallen Leaves.

In the *Gardener's Monthly*, Mr. Meehan says: These have to be gathered up. They are excellent to mix with hot-bed material, and, where practicable, should be saved for this purpose. They do not heat so rapidly as stable manure, and in this have an advantage as tempering its violence, making it last longer, and maintaining a more regular heat. They are excellent material to put round cold frames to protect half-hardy plants. A board is put up the height of the frame boards, and about a foot or more from them, and the leaves filled in between. If the plants are somewhat tender, the bottom of the frames may be filled in a few feet with the leaves. Much heat is thrown off during the decomposition of the leaves, which, though not enough to keep out severe frost, yet modifies somewhat the temperature. These leaves, after they have been two or three years decaying, make admirable stuff for potting and flowers in general.

Large Potatoes.

We had exhibited lately to us, at our office, a sample of Peerless potatoes grown on the farm of Mrs. Richard Norris, near Reistertown, Baltimore Co., Md., which were exceedingly large and handsome. The basket contained nine potatoes, which weighed over 14 lbs., the largest weighing 2 lbs. 5 oz. They were grown on a light sandy loam, and one-sixth of an acre produced 40 bus. The land is naturally thin, but on a hill-side having the advantage of good drainage, to which, with a careful cultivation, is attributed their size. On the lot a fertilizer was applied of 150 lbs. ground plaster and 132 lbs. Guanape guano, at a cost of \$5 46.

Injury to Lawns.

Referring to the damage done to lawns by the attacks of worms on the roots of grass, and the presence of colonies of ants, the *Journal of Chemistry* thinks the use of animal manures invites these intruders, but says, that although if we do not fertilize we can have no lawns, since the rich grasses will thrive only where the best nutriment is supplied in abundant quantity, we can ignore excrementitious manures and yet have fine lawns. We have not for several years used stable or farm-yard manures upon lawns, but the concentrated or mineral fertilizers, which have given most satisfactory results. A lawn properly prepared should always receive a coating of gypsum, for this agent is the peculiar pabulum of the white clover-plant,—one of the richest, densest, and most beautiful of our lawn grasses. It is so sparingly soluble in water that a coating will last for many years, and furnish sufficient nutriment. Nitrate of soda also,—or better, if one can afford it, nitrate of potash,—is an excellent fertilizer for lawns. Combine with these true superphosphate of lime and the “animal dust” of the abattoirs, and you have everything necessary to grow the most luxuriant grasses, and nothing is furnished that worms or insects can use as food.

It is a bad practice to spread a coating of stable dung over a lawn in the autumn, as the seeds of vicious weeds are washed out, and, lodging in the soil, fructify, and ultimately crowd out the desirable grasses. Lawns should be fed several times during every season; and if the fertilizing agent can be presented in liquid form, all the better. Weak solutions of the nitrate of soda or potassa are easily made, and the “animal dust” and superphosphate may be applied in fine powder during a rain. We say during a rain, because one does not know when rain will fall, and from directing to apply just before a rain grave mistakes may result. An old rubber coat and hat will protect workmen from showers, and enable them to work freely. We are confident that avoiding the use of animal manures will suffice to rid us of the worms and insects that threaten to devastate our lawns.

This agrees with the advice heretofore given in the *Farmer* by Mr. Brackenridge, who objects likewise to the disagreeable appearance of a lawn spread over with stable manure during the whole winter.

Orchids in England.

To give some idea of the value of these plants, when well grown and in good condition, we instance a sale lately reported of 639 lots, realizing about \$12,000. One plant of *saccolabium guttatum*, two to three feet high, and strong, and which produced this year ten spikes of bloom, brought over \$325, and many others brought from \$100 to \$150 and \$200 each.

Remarkable Potato Product in England.

One pound of “Eureka” seed—an American variety—is reported to have produced a crop of 1,082½ lbs. in the garden of Mr. W. Bromley-Davenport, M. P., at Capesthorpe. This is the greatest yield recorded.

Winter Care of Vegetables.

A correspondent of *La Revue Agricole* thus describes his plan for keeping carrots, turnips, beets, &c., through the winter:

“It is simply to place these roots or tubers in measures or boxes, whose bottoms are perforated with sundry large holes, in trenches in the soil, and cover them with six inches of earth or with planks in such a manner that the air may circulate freely within. By this means I have kept carrots up to June as fresh as when they were first dug from the soil. One can thus keep potatoes and prevent their germination. For keeping larger quantities, the plants on which the potatoes are placed should be at least eight inches from the soil and leave vacancies in the plants to facilitate the circulation of air. I have employed this plan for many years and find it excellent.

I advise your readers to try it, at first on a small scale if they have any doubts about its efficacy.”

Plants for Dinner-Table Decoration.

The first premium for six plants suitable for this purpose was awarded at the Royal Caledonian Exhibition for *Cocos Weddelliana*, *Croton interruptum* and *C. angustifolium*, *Dracena Guilloylei*, *D. Shepherdii* and *D. Cooperi*, all splendidly colored.

Sheep-Raising in North Carolina.

Messrs. Editors *American Farmer*:

Dear Sir—The November No. of the *Farmer* to hand. I am always interested in reading it, and especially when it treats of the subject of sheep-raising. We have been thinking for some time on the subject of raising sheep, and wish to know of you where we can get a reliable work on that subject, and also would like to have your opinion on the matter. I will first describe the land in as few words as I can. We (myself and brothers) own about eleven thousand acres of what is called mountain lands, though a large portion of it is level enough to cultivate.

There is a small range running through it known as King's Mountain, but no portion of it but what is accessible to stock. The land has been used as an iron property, and a large portion of the original forest has been cut off and is now covered with a small growth; the other portion in forest and some cultivated land. The grass grows very fair, and especially where there is but little undergrowth, or none at all.

The cattle during the spring come from the surrounding country, but do not come so much later in the season, from the fact, as I think, that the grass gets tough for the want of grazing. There are a great many fine springs and little streams on the land, so there would always be plenty of pure water. There is a plant known as the *Plantain* which grows close to the ground and lives all the winter, which, it is said, sheep do well on except when the ground is covered with snow, which is not often. The land lies near the A. L. Railroad, which leads from Charlotte to Atlanta. The nearest point of the land is about one mile from our little town.

Any information you may give on the subject will be thankfully received. Our farmers are quite busy gathering their crops and seeding down wheat. When they get more at leisure I am going to make another effort for the *Farmer*, as those who are taking it express themselves as being well pleased. Truly yours, R. H. G.

Cleveland Co., N. C., Nov. 5th, 1875.

[The circumstances seem favorable in our correspondent's case for successfully keeping sheep, all the conditions being provided for their doing well. There is no better work than "Randall's Practical Shepherd." The Manual published in Georgia contains a great number of valuable matter in a compressed form.—Eds. A. F.]

Agriculture in South Carolina—Jersey Cattle.

Messrs. Editors *American Farmer* :

We have a fine country here, as far as soil and climate can make it, and in the future, no doubt, it will be a prosperous one, but many of us will not see that future.

The want of capital prevents the development of our resources, and whoever brings it to us will be welcome. The expense of fencing forces us to make the most of our enclosed land, and a crop of wheat, or more commonly oats, is followed by a crop of corn, on the same land, which, with the pea crop planted with the corn, gives us three crops from the same land in one year.

Let me give you an illustration from my own experience. In February, 1874, I planted oats on a poor piece of upland, without manure. The oat crop was poor—not measured. In July (the 20th day) I planted Dent corn, and about the 10th of August planted an early pea on the corn row. The corn was attacked by a worm, which is frequently troublesome in very late corn, and the yield was not satisfactory, though manured with 150 lbs. "Atlantic Phosphate."

On the 10th of November, 1874, I planted the same land in "red rust-proof oats," in drill, manured with 20 bushels of cotton seed per acre. I plowed the oats twice in the spring, commenced cutting on the 20th of May, and finished the 1st of June. The yield was 38 bushels of oats per acre.

On the 19th of June the same land was planted in Dent corn, and, in all, I gathered 28 bushels of corn, and cut a fair crop of pea-vine hay. The manure used was "Atlantic Phosphate," a Charleston manure, 200 lbs. per acre. Such land—uncleared, and some cleared and fenced—can be bought in quantity at five dollars and less per acre.

I have a little over 3,000 acres, upland and low land adjoining, which I wish to sell; the upland good cotton land. I have made for years 1,400 to 1,500 lbs. per acre, seed cotton, equal to one bale per acre, on the upland, with no bought manure. On the low land, well adapted to cotton and grain, I have made, without manure, 34 bushels oats and 28 of wheat per acre. As a range for stock there is no better in our region.

Most of us own too much land for the present system of labor, and I should be glad to dispose of a part of mine on very moderate terms. I have, before emancipation, made near 45,000 lbs. of

pork on that place in one season. So you see hogs thrive on it. Our native pasture is such I can kill a fat mutton any day in the year, with no other food but such as the sheep find for themselves.

I have never owned a cow that gave me more satisfaction than the Jersey heifer you sent me in October, 1872. She began to give milk on the first of March, 1873, when but eleven months old, and has been milked daily from that time to this. She has had two calves—one at fourteen months old, the other when a little over two years, and lost a third, by a premature birth, from an accident, before she was three years old. She will calve again next month, when she will be three years and eight months old. She cost me, delivered here, \$94.75, at six months old, and I have sold her two calves for \$150. She is the handsomest cow I have seen of that breed, and has always taken a prize whenever exhibited at our county fair.

They have stood our climate the first summer, the only dangerous period, as well as my native Devons.

I have a number of half-blood heifers that promise well, none old enough yet to calve.

I have sold the bull you sent me, for more than he cost, after keeping him as long as I wished.

My Jersey cow is not a large milker, owing, I believe, to a bad milker with both her calves. Last May she gave sixteen quarts per day, when the calf was ten months old, but usually gives from ten to twelve quarts.

JOHN WITHERSPOON.

Darlington Co., S. C.

[In addition to the above testimony from Mr. Witherspoon, to the adaptation of the Jerseys to the South, we annex the following, which we find in the November issue of the *Rural Carolinian*]:

Jersey Cattle.—At the suggestion of a friend, I give below my experience with a Jersey heifer. Alute, No. 9, 3rd Vol., H. B. R., was dropped on 1st October, 1873. Her sire was Prince Charles, No. 2, 136, 2nd Vol., and her dam, No. 2, 220, 2nd Vol., H. B. R. She was purchased through the agency of Mess. S. Sands & Son, Baltimore, Md., of Mr. Edward F. Jenkins, of Baltimore Co., and was received at Society Hill, S. C., by express, on the 23d January, 1875. On the 6th March she lost, prematurely, a heifer calf. She has been milked regularly from that time, yielding an average of two gallons rich milk per day. Her feed has been one quart corn and pea meal, mixed, morning and evening; with the run of four or five acres. The contrast between the richness of her milk and that of a grade Devon is very marked in favor of the Jersey. Feed the same. Her cost was nearly \$140.

Society Hill, Sept. 20, 1875.

J. J. L.

Butter Production in Virginia.

At the late fair of the Lynchburg Agricultural Society, its president, George W. Palmer, of Saltville, one of the largest stock-raisers in the State, took the premium for butter with a sample which represented 6,000 pounds, then ready for market. The production of butter promises to become a leading interest in Southwestern Virginia.

The Demand for Educated Intelligence Among Farmers.

Editors American Farmer:

The times are, we all know, prolific of moral and political phenomena, which the sober-minded amongst us scarcely know how to pigeon-hole,—so absurdly grave or painfully ridiculous are their prominent characteristics. Where shall we place that proposition of the Ladies' "Free Dress League" of Philadelphia, to petition Congress "to appoint a joint committee to settle a suitable dress for the women of the country?"

If, indeed, all other means and appliances failing, Congress may legitimately assume to legislate on a subject so profoundly delicate as the dress of ladies, do you not think, Messrs. Editors, that an appeal had better be made to that august body "to settle a suitable dress for those of our farmers who blindly persist in digging graves for their own and their country's prosperity."

From every quarter come complaints, couched in terms most bitter, that devotion to cotton planting, to the neglect of grain for man and beast, is rapidly conducting us to financial ruin, *cui bono?* The mad grumbling continues, and logic is powerless to restrain it.

With all due deference to the ladies, I do not think that an appeal to Congress to dress *them*, or the cotton-mad farmers, would be "in order;" but I do think that, if the wisdom and power of the country are to be found chiefly manifest within those sacred walls where senators and representatives do congregate, they should be memorialized on this perplexing question of much cotton and little grain. I would go further—for the matter is urgent, and admits of no delay—I would amend the proposition as contemplated by the ladies of Philadelphia—I would ask for no joint committee to settle, &c., &c., but I would propose to your honorable, your wise, and your powerful body, to postpone the election of President to 1877, to resolve yourselves into so many committees of one, and, thus resolved, to undertake the work of perambulating missionaries,—bringing to bear upon the unhappy subjects of this cotton delusion all that is in you of wisdom and of power.

This proposition, I am quite aware, smacks very strongly of the Baron Munchausen way of overcoming difficulties; but what, my friends, are we to do? Talking has proved of as much avail as talking generally does to "the man convinced against his will." Writing? Where, among the mass of our farmers,—that exceeding great army, which, locust-like, is eating out our substance,—shall we find readers?

Seriously, is there nothing to be done? The consideration of this and all similar questions invariably conducts your correspondent to but one conclusion. Educated intelligence must precede educated farming, and not until the former, in a much greater degree than now distinguishes the average agriculturist, can we reasonably anticipate anything more than spasmodic effort to redeem the past. Permit me to repeat what it has, you know, always been my conviction, that in the personal effort of the intelligent farmer lies the secret of our redemption

from the present most lamentable condition of things agriculturally considered. Educated intelligence, when possessed by the farmer, should be a beacon set on a hill.

Such light, shrouded by selfishness, or permitted to cast its rays only within the limited circumference of its possessor's daily walk, will, and certainly does, produce valuable returns. Like all other prudent investments, interest may be depended on, but it will be simple interest, and the accretions to the capital will fall immeasurably short of those which would accrue were direct and immediate benefit to self less considered. The moral of all which—and it is a moral that none of the readers of the *Farmer* will question—is this:

Personal effort within the range of every intelligent farmer's influence to educate his illiterate neighbors, and to encourage and aid them to educate themselves, will produce more than simple interest. Corporations and associated bodies of men, of whatever kind, are necessary instrumentalities, but the noblest and most lasting monuments which Christian civilization has erected, have owed their corner-stone to the persistent, self-abnegating effort of individual philanthropists.

And, after all, it is a very selfish thing to labor to promote successful farming around us. The very pith and back-bone of our Southern country, and, indeed, more or less, of every country, is agriculture. The present system, or, rather, no system, is steadily conducting us to financial distress; and if the many illiterate, unadvised, unassisted members suffer, the few well-read and able members will—the law is inviolable—suffer with them.

Is not the country now suffering from the practical exhibition of the feeling expressed in the question:—am I my brother's keeper? Pardon me if I have sermonized too pointedly for the pages of the *Farmer*. Your friend, H. E.

Greenville Co., S. C., Nov. 22, 1875.

The Centennial Exhibition—Its Favorable Influence on the South.

For the American Farmer:

Your article in the November number of your journal has revived in my mind some thoughts that I have entertained for many months, particularly in regard to the South. These thoughts embrace a variety of subjects. Some persons will probably think my theories and speculations as merely the offspring of the mind of an enthusiastic old man. Others may look upon them as absolute absurdities and unworthy of consideration. Time, however, the true demonstrator of all things, will prove their truthfulness or falsity. I am a firm believer in their correctness, and that, in the main, they will, in time, be fulfilled.

I will condense my theories and speculations in as small a compass as I can, and offer you the option of publishing them in the *American Farmer*.

THE CENTENNIAL EXPOSITION.

What its beneficial effects will be.—Resources of the United States.—The wealth of Nations.—Reward of labor.—Slavery.—Value of the lands and future destiny of the South.—Restoration of Specie Payments.—Good feeling between the

North and South.—Strength and perpetuity of the Union.

The centennial will bring together, from all parts of the globe, the greatest mass of intelligence that ever congregated in one body, in relation to the productions and manufactures of the world. It will exhibit the boundless resources of the United States in everything that constitutes the wealth of a nation, the foundation of which is in the productiveness of its soil and mines, and in the extent and value of its manufactures, all of which necessarily give employment to labor, and the main pillar in the edifice of the wealth of a nation is THE REWARD OF LABOR. Many of the gentlemen from foreign nations who will visit the centennial exposition, will doubtless travel extensively over our country. Some will be astonished at its vastness; others will be amazed to look upon the millions upon millions of acres of rich prairie lands, adapted to the growth of grain and other farm products, that have never had their sod broken with the plow. These gentlemen will spread the information they will acquire by their visit here, far and wide over the length and breadth of the civilized world,—thereby stimulating enterprising industrious people to immigrate to our shores. It will bring to the knowledge of the world, a more correct idea than it has ever yet had, of the incalculable value of the lands of the South, for the growth of cotton, and it is a well known and indisputable fact that the cotton crops of America always exercise a potent influence upon the price of that great staple in the European markets.

And now that the great curse of slavery, which blights every sprig of vegetation it treads upon, has been abolished, the population will gradually become interspersed with intelligent, industrious people from other States. By the example and influence of these American immigrants, and the sure and certain effects of public schools, the next generation will be greatly improved in intelligence, morals, industry and gentility,—for it is a lamentable fact that at this day there are many thousands of grown-up white people in the Southern States, who can neither read nor write.

The large plantations will be divided and subdivided, into small and yet smaller tracts, and by the application of field labor under the direction and management of a more intelligent people, all arable lands, as in the North, will be brought into cultivation, in a greatly improved condition, when the South will become emphatically "THE GARDEN SPOT OF AMERICA!" and when all these lands shall be, as they eventually will be, brought up to their full capacity of production, the human mind will have to be stretched to imagine the immensity of the crops of cotton, sugar, rice, corn, tobacco and various other valuable crops the South will be capable of producing.

To all cultivators of the soil who are looking out for a new location, and especially to young beginners who have no land of their own to begin the world upon, I would most unhesitatingly say "Go South," where you will have a genial climate, short winters, or no winter at all; where you can buy lands at low prices, that will produce almost everything that can be

grown in the West, besides all the other valuable productions peculiar to the South; and let two of your indispensable products be, your own corn and bacon. Do not attempt to till more land than you can cultivate well. It will be the most ruinous policy you can pursue, to pitch crops so large that they will have to call in vain for the use of the plow, the cultivator or the hoe. Be assiduous in making all the manure you possibly can, and do not squander it away on poor land at the start, but put it on your best land, taking up no more at a time than you can make rich enough, in a short time, to bring you good crops. Pursue this course regularly, until all your best and medium lands shall be brought up to a condition to pay you well for your labor, and then, as you can spare manure, gradually work in your poorer land, until finally you will have all your arable lands in good condition. By constantly and persistently pursuing this method, you will be surprised to see how fast you can bring your lands into a condition to pay you for your labor, and with economy and frugality in all things, you may also be surprised at the increase of your finances, which will be sure to follow.

If these influences were put in practice now, the effect would do more to establish the currency on a specie basis, than all the banks, brokers, acts of Congress and political currency tinkers in the country put together can do.

The gathering at the "City of Brotherly Love" of so many of our people from every section of the country will mark an "era of good feeling" in the breasts of the mass of the millions of our people. It will promote and cherish the kindly feeling and fraternization already deeply rooted in the hearts of our people North and South, and it is not too much to hope and to believe, as I do, that the day is not distant in the future when every American citizen will feel the conviction that the Union is stronger than it has ever heretofore been; and I believe that if the country should be involved in a foreign war to-morrow, the men of the South would vie with the men of the North and West in rallying under its banner and defending it with their lives, and the courage and daring of the southern soldier on the battle-field is acknowledged and appreciated the world over. It would take the world to conquer us. No two nations combined could do it now, and who can estimate what our strength will be in another century?!!

As to the nonsensical idea of "a ruined country" and "a broken Union," it is all fudge. None but political demagogues and half-brained simpletons ever speak of it, or think of it, and they do not believe their own utterances. I have been familiar with this idle slang ever since President Jefferson purchased Louisiana from Napoleon. And although these demagogues have reinforced themselves the last two years with the awful and appalling cry of the "reign of Caesarism," the pillar of the Union shows no symptoms of weakness or decay, but, on the contrary, stands erect and firm, gathering strength and power day by day, and it never can be broken, for the simple reason that it is the interest—the paramount interest—of every honest citizen to maintain and support it, and they will do it. Therefore the inevitable destiny of the United States, with all

that may hereafter fall into their train upon the American continent, is UNION, PROSPERITY, PERPETUITY AND INVINCIBLE POWER!!!

Very respectfully, L. W. GOSNELL.
North Branch, Md., 19th Nov., 1875.

Shrinkage in Wool.

In the July and November numbers of the *Farmer* last year there was an account of a wonderful French merino fleece from California, which weighed 51½ lbs. This fleece, which was said to be the heaviest ever exhibited, was placed afterwards in the hands of a committee of the Illinois Wool-Growers' Association, with instructions to have it scoured. This has been done and the report shows that with the grease and dirt out there remains about 12 lbs. of wool and burs, and the committee think the latter weigh 2 lbs., so that there is only ten pounds of wool.

THE VERMONT DAIRYMEN'S ASSOCIATION will hold its annual meeting at Rutland, on the 19th January, 1876. We learn from our friend, Mr. Bliss, the able secretary, whose papers upon Dairying will be remembered by our readers, that an interesting meeting may be expected, and the names of some of the best-known dairymen of the United States are announced to take part in the meeting. An invitation is extended to all persons interested in Dairying to be present, and much valuable instruction will, we promise, be received by all visitors.

The American Farmer—A Few Opinions of It.

"Always acceptable and always at hand at the right time," says a subscriber in Anne Arundel Co., Md.

"The best agricultural paper I know of," writes another in Newbern, N. C.

"I honestly (no flattery) consider it second to none in the United States," writes a friend in Petersburg, Va.

"I congratulate you on your making your *Farmer* one of the best agricultural papers in the country," writes a gentleman in a neighboring State, himself the conductor of an old and respected agricultural monthly.

"Interesting and instructive," says one of the first writers in the United States on farm topics.

A subscriber in Cumberland Co., Va., asking us to republish an article, says: "I consider it worth, to any farmer, ten years' subscription to your journal."

"One of the best agricultural magazines published."—*The Plantation, Atlanta, Ga.*

"We have often recommended the *Farmer* to our people, and are still satisfied that if they desire a splendid agricultural publication they cannot find one more suited to their necessities."—*Spirit of the South, Rockingham, N. C.*

LAND SALES IN MARYLAND.—We noticed, some time since, the numerous sales of lands in Talbot and other counties of our State, principally to immigrants and others from other States and Europe. We have before us an additional list, embracing many sales to farmers and capitalists from the West and North, and also from Canada and England, at prices very inviting to men of small means.

Veterinary.

Garget.

The following is recommended by the *N. Y. Times*: Reduce the fever by giving eight to twelve ounces of Epsom salts in water sweetened largely with molasses; bathing the udder in warm water, and afterward rubbing it well with glycerine in which a small quantity of aqua ammonia has been mixed, and when the milk has been stringy, injecting into the teat half a pint of strong solution of carbonate of soda, (the common baking soda,) and milking it out in fifteen minutes. This last is of chief importance, as the soda dissolves the curdled milk and neutralizes the acid condition of the secretion, thus relieving the udder of an accumulation of irritating matter. Pukeroot is of great use, and we have frequently given a quart of the sliced root with a quart of sliced potatoes, with immediate and permanent benefit. The soda solution, however, is required whenever the milk is clotted and curdled, and comes away in strings and with difficulty. Garget becomes constitutional with some cows, and those which have it the second time, or have it badly, should be fattened for the butcher.

The Epizootic.

Mr. Murray, well known as an authority on the horse, says: The best remedy for the epizootic is to feed the horse with soft food, blanket warmly, bandage his legs loosely, give him two or three tablespoonfuls of ginger in his feed morning and night, and keep the horse doctor of the neighborhood at least half a mile off. If your horse dies under such treatment send the bill to us, and we—will think it over!

Horses Rubbing their Tails.

This is generally due to worms, and the following is recommended: Clear out the bowels by giving a pint of raw linseed oil, with an ounce of oil of turpentine (half the above for a two-year-old, or one-quarter for a yearling,) and follow this up by giving every morning fasting two drams sulphate of iron, two drams santonicum, and five grains arsenious acid (arsenic) for six days. Follow this again by a dose of oil. It should be added that it is often impossible to rid a horse of the most common species of the pin-worm, as the immature worms inhabit small sacs in the mucous membrane and even the interior of the blood vessels. The symptoms, therefore, may re-appear and require renewed treatment a short time after the intestines have been cleared.

Warts on Horses.

The *Turf, Field and Farmer* gives the following cure: First wash over the surface of the wart with a ley made by dissolving one ounce of sal-soda in one quart of boiling water, and apply when sufficiently cool by means of a sponge. After you have removed all foreign or scaly matter from the surface of the wart, touch over the wart only, by means of a camel's-hair brush, a caustic composed of nitrate of silver, one drachm; cold water, one ounce. Apply this latter every second day at night. This will no doubt be found an efficacious remedy in entirely removing it.

Useful Recipes.

TANNING FUR AND OTHER SKINS.—Remove the legs and useless parts, soak the skin soft, and then remove the fleshy substances, and soak it in warm water one hour. Now take for each skin, borax, saltpetre and Glauber's salt, of each one half ounce, and dissolve or wet with soft water sufficient to allow it to be spread on the flesh side of the skin. Put it on with a brush thickest in the centre or thickest part of the skin, and double the skin together, flesh side in; keeping it in a cool place for twenty-four hours, not allowing it to freeze. Then wash the skin clean, and take sal-soda, one ounce; borax, one-half ounce; refined soap, two ounces; melt them slowly together, being careful not to allow them to boil, and apply the mixture to the flesh side as at first. Boil up again and keep it in a warm place for twenty-four hours; then wash the skin clean again, as above, and have saleratus, two ounces, dissolved in hot rain water sufficient to well saturate the skin; take alum, four ounces; salt, eight ounces; and dissolve also in hot rain water; when sufficiently cool to allow the handling of it without scalding, put in the skin for twelve hours; then wring out the water and hang up for twelve hours more to dry. Repeat this last soaking and drying two or three times, according to the desired softness of the skin when finished. Lastly finish, by pulling and working, and finally rubbing with a piece of pumice-stone and fine-sand paper. This works like a charm on sheep-skins, fur-skins, dog, wolf, bear-skins, etc.

TO GET RID OF COCKROACHES.—The roots of black hellebore, strewn at night in the places infested by roaches and beetles, are an effectual remedy. The vermin will be found in the morning dead or dying. Black hellebore grows in marshy grounds. It is sometimes called "Christmas Rose," on account of its flowers expanding in the middle of winter. Fresh burned plaster of paris, mixed with wheat flour and a little sugar, distributed on shallow plates and boards at night is also said to be an effectual remedy, as after three or four nights' renewing no roaches will be seen.

TO BLEACH TALLOW.—In a copper boiler put half a gallon of water and one hundred pounds of rendered tallow; melt over a slow fire, and add, while stirring, one pound of oil of vitriol previously diluted with twelve pounds of water. Afterward add one-half pound of bichromate of potassa in powder, and lastly, thirteen pints of water, after which the fire is allowed to go down, when the tallow will collect on the surface of the dark green liquid from which it has separated. It is then of a fine white with a considerable degree of hardness.

PRESERVING CIDER.—The following method of preserving sweet cider is recommended as superior to any other: I allow the cider, after it comes from the press, to stand until the pomace settles; when this point is reached I put it in a clean vessel, and let it come to a boil, skimming off the skum carefully. It is then put into kegs and demijohns, and tightly worked and sealed. By this process I have excellent sweet cider, not merely for the winter, but for years. This method would not of course be available where large quantities are made, but for an ordinary family it answers admirably.

Domestic Recipes.

From a new book—"Cookery by Experience," by Mrs. Paul, (Porter and Coates)—we take the following:

A VERY GOOD APPLE PIE.—Take a large coffee-cup full of light bread dough, work in it a piece of butter the size of an egg, fill a deep dish with apples sliced thin, put a little water on them, roll out the crust just to cover the dish, and bake until the apples are perfectly soft; then with a knife lift the crust off, lay it upside down on a plate a little larger than the crust; mash the apples with the back of a spoon in the dish they were baked in, put a piece of butter in them as large as a nutmeg, sugar to your taste, stir well together, spread them on the crust, grate nutmeg over the top, and you have a very nice pie. Better if eaten with cream.

PLAIN PLUM PUDDING.—One cup of molasses, one of milk, four of flour, one egg, one teaspoonful of soda dissolved in the milk, a little nutmeg, cinnamon, cloves and mace, one teaspoonful of salt, one cup of raisins seeded; boil three hours.

PREPARED LIQUID RENNET.—To a pint of milk slightly warmed add two teaspoonfuls of Bowker's preparation; a firm curd will be made in a few minutes. The addition of an egg to the milk before adding the Rennet, gives greater richness. As a food, milk is highly nutritious, and when coagulated with Rennet, gives a very mild, light and easily digested diet, free from stimulating properties.

Mr. Editor: I send you some tested recipes. *Goochland Co., Va.* E. 1.

FRUIT CAKE.—1 lb. of butter, 1 lb. of flour, 1 lb. sugar, 10 eggs, 2 lbs. of currants, 2 lbs. of raisins, $\frac{1}{4}$ lb. of citron, 1 nutmeg.

COCOANUT CANDY.— $1\frac{1}{2}$ lbs. of white sugar, soft white or granulated, not pulverized, grate 1 large cocoanut or 2 small ones, put the sugar into a preserving kettle, with one quart of boiling water; let this boil till it gets like the gum off a peach tree. To test it take a little up on a spoon and dip it into cold water. When done pour in the grated cocoanut and let it cook a few minutes. When you take it off, stir it till it grains or gets sugary; then have ready tins perfectly flat: (not greased, that is not necessary) take up a dessert spoonful at a time, and form it into cakes on the tins, then leave it stand in the kitchen a half an hour to dry, then take them off on to a dish; they are better the next day.

ALBANY CAKES.— $1\frac{1}{2}$ lbs. of flour, 1 lb of sugar, $\frac{1}{4}$ lb. of butter, 1 nutmeg, a little powdered cinnamon, 1 egg, $\frac{1}{4}$ teaspoonful of soda dissolved in a tea-cup of milk, cover with powdered sugar and cinnamon; before baking, roll them out and cut them out with a tin, and bake in a moderate oven not too hot.

ORANGE CAKE.—1 lb. of pulverized sugar, $\frac{3}{4}$ lb. of sifted flour, 12 eggs, 1 orange, $\frac{1}{2}$ lemon, juice, rind and pulp grated and put into the cake; 1 orange, $\frac{1}{2}$ lemon put in the icing, made of the white of two eggs and 1 lb. of sugar; bake in mountain cake pans, icing between each layer.

The American Farmer.

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SAML. SANDS, } Editors and Proprietors.
WM. B. SANDS, }

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One Page.....	20.00	45.00	75.00	120.00

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Transient Advertisements payable in advance—all others quarterly.

Advertisements should reach us by the 20th of the month, to secure insertion in the succeeding issue.

DECEMBER 1, 1875.

Begin at Once.

To our friends, whose kind offices in our behalf are thankfully acknowledged, we make an appeal for their continued help to the *American Farmer*. The present is the very best time to recommend it to your friends and neighbors who are not now subscribers, and to renew the subscriptions of all already on our lists.

It is our desire to make "the Old Pioneer" better than ever before. To do this depends much, however, on our present readers working for an increase of its circulation. A well-directed, energetic effort on the part of each one of our friends to secure us another subscriber, or a club of them, will further assure us of the appreciation of our endeavors to make it worthy the support of intelligent, progressive agriculturists. Shall that effort be lacking? We believe not, since our annually increasing lists bear testimony to the generous services of our readers; and, inspired by this assurance, we will redouble our efforts to make the *Farmer* more and more useful and devoted to its friends.

Begin, then, at once, to collect and send us the names. We believe no community but will be improved by widening the circulation of the *Farmer* in it.

From the notice elsewhere, it will be seen that the subscription price is reduced to \$1.50 for single names, and to \$1 for clubs of five or more. To those who have facilities for getting up clubs, we will be pleased to offer special terms if they will address us on the subject.

Close of the Year.

With the ending of the volume we renew, as is our custom, our acknowledgments to all the friends of the *American Farmer* for their aid and support through the year. We hope to have continued to it in the future the favor which it has so long enjoyed from the very best and foremost men of their day; and no assurance from us is needed that we shall endeavor in the future, as always in the past, to deserve the respect and confidence of our farmers, so that the *Farmer* shall be esteemed, as well for its own position as an advanced worker, in the cause of agricultural improvement as for its reputation of old, and continue (as in many instances on our lists) to descend from father to son—a trusted adviser and friend.

Reduction of Subscription.

We have decided since our last issue to reduce the price of the *Farmer* from \$1.60 for single subscribers to \$1.50; and the club rate (for five or more) from \$1.10 to \$1, we prepaying the postage. This saves the necessity of making inconvenient fractions in remitting, and will, likewise, perhaps, help to induce some—in these days of economy—to enrol their names on our books.

Tobacco Inspections in Maryland.

It would seem that our tobacco-growers, as well as the shippers and dealers, begin to kick against the vicious system pursued in this State in the inspection of this staple.

The Patrons have come out very strongly in favor of its abolishment, and the substitution of licensed private inspections, and the prevailing disposition seems to tend towards severing this business entirely from political control and adopting a plan of private warehouses,—selling

those now belonging to the State, or renting them out to the highest responsible bidders.

We trust the Legislature will adopt wise and prudent measures to remedy the features which all acknowledge are in the present system ill-contrived and antiquated. To any suggestions on the subject, from those interested, we shall be glad to give room in our pages.

WE COMMEND TO THE ATTENTION OF ALL OUR READERS the suggestion of our friend Mr. Gilmer, elsewhere in this issue. Let those who have any facts likely to be of value to their fellows, not fail to "communicate." The form is of no consequence. Give us the facts and we will put them in shape to do good.

The Agricultural College.

Among other subjects which the General Assembly, at its approaching session, will be asked to examine in the interests of the farming class, will be the condition, management and working of this institution, of which the State is a joint owner with the private stockholders.

The shocking maladministration made public since the last meeting of the Legislature; the challenge of the participation of the State's representation in the control of its affairs; its diversion from the original objects of its charter, as shown in the introduction of a department of "nautical science;" the differences of views among the trustees; the utter lack of anything distinctively agricultural about it; the character of the recent remodeling of the faculty; the limited number of pupils in attendance—all, with its crippled condition in consequence of its indebtedness, as well as the awkward and ill-adjusted mode of appointing its joint managers, lay an imperative duty on representatives from the rural districts to make an effort to save the interest of the State, or to have it surrender an institution which, for several years past, has done the State no credit, nor ever benefited in the remotest degree our agricultural classes.

We suggest, therefore, to the farmers of Maryland, who have a very direct interest in agricultural education, that, in a suitable manner and at the proper time, they express their views on the subject to their representatives.

We shall, probably, in our next issue, offer some considerations as to what is proper and practicable to be done in the premises, and give our views as to the obligations resting upon our legislators, to so change the status of the College, that it may cease to be a reproach to the cause of education and agriculture in our State.

By oversight, the advertisement of Messrs. F. C. Grange & Co., importers and dealers in German Potash Salts, 49 Light St., was omitted from our last issue. Mr. G. is the son and successor of Mr. Wm. Grange, who was the original introducer of these salts, and from whom Prof. Goessman says his first supplies were received.

Publications Received.

From the ORANGE JUDD Co., New York,—*Gardening for Pleasure*, by Peter Henderson. Price \$1.50. This volume by this well-known authority—whose works on flowers and vegetables for commercial growers have had a great sale—is intended for the in-door and out-door amateur, and comprehends the production of fruits, flowers and vegetables, and contains much useful instruction in each branch.

From the HOMOEOPATHIC PHARMACY, 107 Fourth Avenue, New York,—*Smith's Homoeopathic Veterinary Chart*. This gives, in a very convenient form, some useful anatomical plates; illustrations of the seat of various affections of the horse, and a table of the remedies most used in this practice for the various diseases affecting him. Price \$1.

From MESSRS. SCRIBNER & Co, New York,—*Scribner's Monthly* and *St. Nicholas* for December. The Monthly continues if possible to improve with each succeeding issue, and is always filled with the richest freight of good things, stories, travels, sketches, poetry, the editorial departments, and many beautiful engravings.

St. Nicholas keeps as bright and cheery and healthful as ever, and manages in every number to present attractions so varied and plentiful as to impress all with wonder at the pens and pencils it lays under contribution to supply instruction and entertainment, fun and solid information to countless boys and girls. No home, and especially no country home, but would be made brighter by this popular juvenile.

THE SEMI-TROPICAL is the title of a new monthly published at Jacksonville, Florida, by Charles W. Blew, and edited by Harrison Reed, devoted to Southern agriculture and horticulture and to immigration. Subscription, \$3 a year. Its special object is to "meet the rapidly increasing demand for information upon all matters connected with Southern industrial development, and with Florida especially, as a home for the laborer, the agriculturist, the mechanic and the manufacturer." It is very handsomely gotten up and printed, and its contents are such as to command the attention of interested readers. We wish it a successful career.

From the INDUSTRIAL PUBLISHING Co., New York, we have *How to use the Pistol*: a manual on the pistol as a weapon of defence in the house and on the road; how to choose it and how to use it. In these days of the tramp nuisance, this is not an untimely little book, and time will not be wasted in making one's self acquainted with what it teaches of the uses and powers of the weapon it describes.

The McGinnis Harrow.

The inventor writes us that we were in error as to this having been patented at the time of our notice of it some months ago. It was not patented till the 12th of October. It has only been exhibited at two shows—the Augusta Co., and Virginia State—and was awarded the first premium at both fairs. It is said to be exceedingly strong and simple, and attracted much attention both at Staunton and Richmond.

THE CONCLUSION of Dr. Brigg's communication on M. Goffart's curing of corn-fodder, with the details, will, we think, be read with much pleasure and benefit.

Meeting of Fertilizer Manufacturers and Dealers.

A meeting was held in this city on the 18th November, of representatives of most of the leading houses in this city, with a number of others from abroad, to discuss the present mode of doing business with consumers of fertilizers. After a session of several hours, the following resolution was passed:

"Resolved, That it is the sense of this meeting that fertilizers should be sold for cash or satisfactorily indorsed papers, and that the barter of fertilizers for cotton and other produce at a fictitious price is demoralizing to the trade, and should be discountenanced by all manufacturers and dealers." A committee was appointed on a permanent organization, to report at a meeting to be held the first Thursday in May.

Meeting of the Tobacco Trade.

On the 18th November quite a large meeting was held of the wholesale dealers, receivers and shippers of tobacco in Baltimore, to propose and consider remedies for the abuses connected with the present system of State inspection.

A number of gentlemen gave their views on the subject, and it was decided to appoint a committee of six to mature "a plan by which tobacco exporters and factors may obtain much-needed redress from the crying abuses which pervade the inspection of tobacco in this State." It was stated at the meeting that a large exporting house had received orders from Bremen to take no tobacco inspected at a State Tobacco Warehouse, named, because of its unreliable character.

The committee appointed has since held a protracted meeting, the result of which, it is understood, is that a report will be made favoring the abolition of the present system of tobacco inspections in this State.

We believe, in sincerity, that no neighborhood where the Farmer is introduced, but is benefited by it. Those, therefore, who exert themselves in its favor not only do it and us a favor, but are also doing good to their fellows, and, reciprocally, advantaging themselves. Test this by sending us a good club.

The National Grange.

This body held a session last month in Louisville. The executive committee reported that after careful examination and consideration of the claims of each place it was decided to locate the general offices at Louisville, whose natural advantages are such as to be of great service, and it was with a full sense of the great responsibility resting upon the members that the committee so decided. In regard to the business of the different agencies the report says that some cities are doing a large business, and have in the aggregate millions of dollars, which in other respects they are unsatisfactory and fall short of the benefits which ought to be realized. The commission system of the Order is said to be false in theory and unjust to the members, and therefore in the minds of the committee another method of selling is deemed necessary for the good of the Order. Such a system the committee begs leave to submit plans of at a future day, and is satisfied will meet with general approval. Efforts have been made to bring to the minds of Eastern capitalists and manufacturers the valuable undeveloped riches of the West, and it is hoped ere long something definite in that regard will be determined on. Should the report be adopted concerning business agencies in the different States, the commission system will be abolished, and one general agent to do business for each be appointed and paid a salary out of the treasury of the grange. The report represents that nothing in regard to business of the Canadian grange will be furnished for publication, and all known of it is that a Committee on Foreign Relations was appointed. In conclusion, the committee recommends the employment of lecturers to canvass the country and make known the true aim and objects of the Order, thereby correcting the wrong impressions which now exist in the minds of many worthy people concerning the Patrons of Husbandry. The Grange subsequently voted to increase the salary of the master to \$1,200 a year and expenses; treasurer, \$800 and expenses; secretary, \$2,000 and expenses; the bond of the secretary to be \$10,000, and of the treasurer \$5,000. The election of officers resulted as follows: Master, John T. Jones, Arkansas; overseer, J. J. Woodman, Michigan; lecturer, H. B. Smedley, Iowa; steward, Mortimer Whitehead, New Jersey; chaplain, S. H. Ellis, Ohio; treasurer, F. M. McDowell; secretary, O. H. Kelley, Kentucky; gate-keeper, O. Dinwiddie, Indiana; Ceres, Mrs. J. T. Jones, Arkansas.

Judge Jones, who is elected Master of the Grange, is a native of Essex county, Virginia; was born in that county in the year 1813; was educated in the University of Virginia, graduating in the year 1833, having taken the law course. He removed to within ten miles of Helena, Phillips county, Arkansas, where he settled on a plantation, and has lived there since that time. Was elected judge of the first judicial circuit of Arkansas in 1842, and again in 1846,—serving two terms of four years each. Was elected to the Senate of the United States in 1866, before the State was reconstructed, and was not admitted to a seat, this being the only political office for which he ever offered. He retired from

the bench in 1850, and has been devoted to planting ever since, as well as having carried on a large planting interest while on the bench. He raises his own provisions, in addition to making eight hundred bales of cotton annually.

The Maryland State Grange.

This body will meet at Frederick, Md., on Tuesday, December 14, for the election of officers and the transaction of matters of interest which require the attention of the body before the meeting of the State Legislature. It is understood that action will be determined upon in regard to the tobacco question, on a dog law, incorporation of the State Grange, &c.

Fertilizer Suits Decided.

The Petersburg, (Va.) *Independent* reports that in the Circuit Court of Caroline Co., Va., in the suits of Waite, Miller & Co., of Culpeper C. H., Va., against some thirty farmers in Caroline and Spottsylvania, to recover the price of fertilizers sold them, the farmers alleged the article was spurious, and plead that the contract of purchase was an equal void, because of the failure of Waite, Miller & Co. to attach a label to the bags as required by the Code, which provides that all commercial and artificial manufactured manures sold in Virginia, shall have prominently affixed to every bag a label legibly specifying the manufacturer and the analysis of the fertilizer.

Judge Barton sustained the plea, holding that the failure to label the bags was fatal, and that there could be no recovery of the purchase money for guano sold in bags not so labelled.

Maryland Tobacco Abroad.

The New York *Tobacco Leaf*, the organ of the tobacco trade of the United States, gives, in its issue of 10th ult., the following from its Bremen correspondent in his report of the tobacco market of that city:

"*Maryland*.—Demand is slack and offers are slow. Much of the Maryland recently received turns out badly, compared with American samples, and heavy reclamations are the result. The American samples are not correctly drawn, and it is time that the trade in Baltimore insist upon holding and making inspectors responsible for the samples they draw. Otherwise the sale of American samples will become impossible."

This certainly is getting to be a very serious abuse, and one that steps should be taken to correct at once and effectively.

A Sound Suggestion.

The Montgomery (Md.) county grange passed a resolution urging upon the County Agricultural Society the importance of reducing some of its present heavy premiums, rather foreign to the practical interests of husbandry, so as to enable it to give special premiums for certain farm products—as, say, \$100 for the best ten acres of wheat, and so on.

Remember—the Farmer is \$1.50 a year, postage paid. To subscribers in clubs only \$1 each.

Experiments with Wheat and other Cereals.

From Messrs. D. Landreth & Son, the well known seedsmen, we have a report of some experiments with wheat and other grains at their seed farm at Bloomsdale, near Philadelphia.

In the first series 21 sections of land each of 1-16 of an acre, were sown with winter wheat (Clawson) at the rate of $\frac{1}{4}$ bushel to the acre. To all the lots, save one, fertilizers were applied, mainly Ville's Complete Manure, (Superphosphate, Muriate of Potash, Sulphate of Ammonia and Sulphate of Lime,) or certain of these elements or combinations of them, the cost varying from 64 cents to \$18.00 per acre. The soil where the crops were grown was so rich, however, that the fertilizers showed little effect and the experiment was a failure. The results attained are not given, beyond this statement.

The second series was of 35 kinds of winter wheat each sown on $\frac{1}{4}$ of an acre, very thinly,—not quite *one-fourth* of the usual quantity of seed being used. Eight kinds were so badly winter-killed as to afford no room for calculating qualities. The average yield of the other 27 sections was 37 bushels and 22 quarts to the acre. Owing to inequalities in surface the sections were injured in varying degrees by the extreme severity of the weather. After critical investigation the following kinds are believed to be most valuable and in the order named: Clawson, (or Seneca,) Diehl, Treadwell, Shumaker, Muskingum, Post, Arnold's Gold Medal, Mediterranean.

Six varieties of spring wheat imported from England all failed to shoot to head except one which did so sparingly. This variety (April wheat) promised well under favorable conditions, producing heads six inches long in ninety days after drilling. It will be tested as a winter wheat.

Eight kinds of spring barley yielded from 21 to 48 bushels per acre, and nine of oats from 30 to 71,—Probsteier giving the heaviest yield. Winter oats sown in August on the plantation of Messrs. Landreth, in Virginia, produced 649 bushels on 11 acres, and weighing 35 pounds to the bushel. They consider it a most desirable variety for the Southern States for winter pasture as for grain.

MERINO SHEEP FOR MARYLAND.—Genl. John S. Goe, of Brownsville, Pa., writes us that he has sold to Dr. J. W. Downey, of Newmarket, Frederick Co., Md., a small but select flock of merinoes, comprising 2 rams and 11 ewes.

AS HERETOFORE ANNOUNCED, we have abandoned the offer of premiums for clubs of subscribers. This, because our friends, as a rule, declined to accept them. But whoever is willing to take his time and labor to promote our circulation will be compensated, if he desires it, on a liberal scale, either in articles of value or cash commissions, as may be agreed upon. Let us hear from all such.

Plants for Window Gardens.

Messrs. Editors American Farmer:

We think ladies generally would be more successful with window plants if they would devote their attention more particularly to that class of plants known as succulents. They are much better adapted to the dry arid atmosphere of sitting-rooms than any other class of plants with which we are acquainted, inasmuch as we have never known any of them to be killed by drought; and many of them being almost hardy, renders them desirable for rooms where the temperature is sometimes allowed to fall to the freezing point, or even below. For trailers with this class of plants may be used *Linaria Cymbellaria*, *Lysimachia*, &c., to which may be added some of the Saxifrage family. With plants of this kind and a few pots of bulbs, to bloom in succession, interspersed, we have seen a splendid effect produced with little expense and less trouble. Much, however, will depend upon the owner's judgment and good taste for effect, whatever plants may be used. We mention an instance in illustration of this. A lady who greatly admired *Hedera Helix* (English Ivy) purchased some plants to train. The room in which they were placed was usually kept at a comparatively low temperature, and as a consequence the plants did not need frequent watering. It happened, however, that the apartment was kept at a much higher temperature than usual, on account of company. The plants being somewhat neglected, the soil contracted slightly,—leaving a small space between it and the inside of the pot, so that water when given escaped at once through the bottom. The plant soon suffered, of course. A gardener being called in, at once pointed out the difficulty, when the lady maintained that everything had been done according to instructions; the plants had not been watered until necessary, and then enough had been given to pass off through the bottom. The cause and remedy in this instance are so simple that it seems hardly necessary to point them out. Had the least attention been given to the state of the soil in the pots the plants might have been easily kept in condition. We wish it understood in this connection that it is winter window gardening of which we write, and the reason we would recommend succulent and hardy plants is that they take very little room in the summer and are easily kept, so that the windows may then be filled with gayer flowering plants, which are much more satisfactory and far less trouble at that season.

Winter flowering plants adapted to window culture, in the general acceptance of that term, are few, and we think it safe to say that not ten per cent. succeed with them. One of the most successful efforts at window gardening which strikes our memory at the moment was with hardy plants; a deep bay window looking east. The plants consisted of two or three pretty, well grown sweet little *Retinisporas*, an *Aucuba*, a *Hydrangea*, some *Echeverias*, *Sedums*, *Tulips* and *Single Hyacinths* in glasses. A branch of English Ivy had been admitted through a very small aperture on either side of the window, and trained up the sides and over the top. A remarkably well-grown *Saxifraga* hung from the centre;

the brackets on each side contained an *Aloe*, if memory serves, with *Lysimachia* and *Linaria Cymbellaria*, planted in rather deep saucers, trailing down. There might have been two or three other varieties, but those enumerated constituted the whole effective force in the window, and it always looked remarkably neat and interesting, was little trouble and the plants looked healthy and at home.

The room was little used except of an evening, when the window was shut off from it by heavy curtains. Begonias also make very good window plants,—varieties of *B. Rex*, as also of the *Fuchsoides* type, mixed with *Dracenas* as *D. striata*, *D. terminalis*, &c. We mean, of course, for rooms where the temperature is not allowed to fall below 40° to 45° at any time. We have no doubt that the tuberous-rooted Begonias introduced by Mr. Bull, and exhibited by Mr. Massey at the Horticultural Exhibition in this city last September, would make most excellent plants for the purpose, if grown for winter flowering.

We would not appear as saying anything to discourage window gardening, but the reverse, by all means, and that is the reason we call the attention of your lady readers to a class of plants so much neglected by them and yet so well adapted to their wants.

F. L.

The Virginia Agricultural Fair.

This show was fortunate in having good weather, seems to have been very largely attended, and was a success. The *Richmond Whig* says there were many new features and that the crowds in attendance seemed to find not only ample occupation but real enjoyment. Short-horns were numerous and good; Messrs. Bentley, Palmer, Bowman and Cowan appearing from the reports to be the principal exhibitors. Mr. T. S. Cooper, of Coopersburg, Pa., had some Ayrshires, Cotswolds, and Berkshires on show. A considerable number of Jerseys were shown by Messrs. McCaull, Pratt, Rowe and Palmer, and a few Devons. The display of horses was large and fine. Farm and garden products were abundant, as were agricultural implements, manufactured goods, &c.

At the annual meeting of the Society the President submitted a report showing its financial condition as healthy as the times would allow. It has spent in six years more than \$100,000, in the improvement of the Fair grounds, all of which is permanent investment, and worth more than cost. The cash premiums, including the present year, have been \$50,000, and these effects are seen and felt. Although ten years ago there was nothing but devastated homes and farms, no live stock, money or labor, now the Fairs indicate great progress has been made, especially in the farm and garden. The property of the Society is now nearly of the value of \$200,000, with prospects of a large increase of the membership fund.

Will not our friends send us the names of a person in every neighborhood, who would be willing, for a consideration, to canvass for the Farmer. We will offer all such liberal inducements. We wish next year to more than double our circulation.

The Supposed Over-production of Cheese in the United States.

Mr. X. A. Willard, a recognized authority, writes the *Country Gentleman* that he was not, as supposed, the author of a letter in an English journal asserting that there is an immense over-production of cheese in this country, and gives his views as follows:

The story of "over-production" of dairy goods in America is an *old story*, and one that has circulated freely from year to year for the past 20 years. It has been a clever dodge of the leading cheese-mongers of the world to obtain goods at low rates, and has often served their purpose. Now the history of the cheese trade for the last ten years shows that there has been no over-production. The trade has swept our markets clean from year to year, and many who have been loud in their predictions of a vast accumulation of cheese to stagnate on our hands and paralyze the sale of the coming crop, have been disappointed, or at least have found no such condition of affairs.

The English market is capable of taking a much larger quantity of cheese from us than has ever yet been exported. The cost of meat in England is now very dear; butter has been extremely high and scarce from time to time during the current year, and there is no class of food so cheap to-day in England as American cheese. Look at the facts. English Cheddar cheese is quoted 30 shillings sterling higher to-day in London than the best American, and 30 shillings sterling per cwt. is \$7.50 in gold higher than the rates for the best American. Again, Dutch (skimmed) cheese sells in London for only from one to two shillings below the best American whole-milk cheese. Bacon brings 80 shillings, and best American cheese 65 shillings per cwt. The product of American cheese on hand in the United States was never of better quality. The September and October cheese is fine, and will all be wanted abroad.

But again, compare this season with last. This year we had snow during the last days of October, the herds went into winter quarters, and the fall-make of cheese will be extremely light and below that of last year. Our population is now 45,000,000, and the home consumption increases from year to year, and is much greater than it was five years ago, but this element is scarcely ever taken into account. Many predict a hard winter for the poor, and it stands in hand, even for those in moderate circumstances, to practice economy. Can any animal food be had cheaper than cheese? Dressed hogs are worth 10 cents, and cheese sells for 13 cents. A pound of cheese, it has been proved over and over again, is equal in nutrition to two pounds of meat. Is it not reasonable to suppose that a larger consumption of cheese will be made this winter than formerly by much of our foreign population, who are a cheese eating people, and understand well its economy as a food. With all the facts of production, of demand and consumption, that I have named, I cannot indorse this statement of "over-production," and I believe its influence is mischievous, and demands correction.

The South vs. the West.

Our old friend, Major Freas, always had a "level" head, and his *Germantown Telegraph* has, perhaps, been freer from hobbies and pufferies and quakeries than most of the literature, so-called agricultural, of the last quarter century. In a recent issue he gives this good advice, which corresponds with what has frequently appeared in these pages:

The warning cry is now, "Don't go west!" The west has all the people needed there. True, there is room for tens of millions of emigrants, but there is nothing for them to do. Hence, there is no present room for more, and those who insist on going there will probably remain there, as they will not possess the means to return, which, if they did, they would be glad to do. A man who cannot do well in the east and the north, where he is to the manor born, will find his mistake in going west. If he is itching to go somewhere else, why go south, where, if a proper locality is chosen, his chances of doing well will be increased.

Alleged Frauds in Jersey Cattle Business.

There must be some mistake in relation to this subject, referred to in the November *Farmer*. The importations do not probably number 300 animals a year, far less 3,000. The highest recorded number in the last volume of the *Herd Register* of the Jersey Cattle Club is for cows, 3,363; bulls, 1,355.

THE wool clip of Virginia alone would equal in value the cotton crop of any one of her sister States, *but for the dogs*. The hoofs of ten millions of sheep might, in verification of the Spanish proverb, transmute the barren soil of her gullied hills and exhausted fields into gold.

HOW TO CLEAN CARPETS.—A tablespoonful of ammonia in one gallon of warm water will often restore the color of carpets, even if dissolved by acid or alkali. If a ceiling has been white-washed with the carpet down, and a few drops should fall, this will remove it. Or, after the carpet is well beaten and brushed, scour with oxgall, which will not only extract grease, but freshen the colors. One pint of gall in three gallons of warm water, will do a large carpet. Table and floor cloths may be thus washed. The suds left from a wash when ammonia is used, even if almost cold, cleanses these new floor cloths well.

TO CLEAN MARBLE.—Take two parts common soda, one part of pumice stone and one part of finely powdered chalk; sift it through a fine sieve and mix it with water; then rub it well over the marble and the stains will be removed; then wash the marble over with soap and water and it will be as clean as it was at first.

COLORING PINE FLOORS.—An oaken color can be given to new pine floors and tables by washing them in a solution of copperas dissolved in strong lye, a pound of the former to a gallon of the latter. When dry, this should be oiled, and it will look well for a year or two; then renew the oiling.

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NEW ADVERTISEMENTS.

J. C. Durbinow.—Kirby Mowers and Agricultural Imple-
ments.
Noah Walker & Co.—Clothing.
Hubbell & Dunnett—Pumps and Plumbing Work.
Miller & Hayes—Double Taberose Balbs.
James Vick—Vick's Flower and Vegetable Garden.
Peter Henderson & Co.—Garden Books and Requisites.
Dr. H. Schroeder—Grape Vines.
Detroit Seed Co.—Floral Guide.
D. M. Ferry & Co.—Seed Annual.
J. J. H. Gregory—Seed Catalogue.
F. I. Sage—Vinegar, How to Make.
L. J. Miller—Nonpareil Feed and Farm Mills.
A. Jils—\$35 a Day.
Practical Farmer—"Free."
J. C. McCurdy & Co.—100 Farmers Wanted.
C. F. Richter & Co.—Moulding, Turning and Sawing
Works.
Editors American Farmer—Ayrshires For Sale.
" " " "—Essex Pigs to Exchange.
" " " "—Southdowns Wanted.
" " " "—Improved Poultry Wanted.

Baltimore Markets—Nov. 30.

The quotations below are Wholesale Prices.

Breadstuffs.—Flour—Market quiet, demand light and prices barely steady. Quotations are as follows: Howard St. Super, \$1.00 to 1.50; do. common to fair Extra, \$1.75 to 5.00; do. good to choice do. \$3.25 to 5.37; do. Family, \$3.75 to 7.75. Ohio and Indiana Super, \$1.40 to 4.37; do. Extra, \$1.50 to 5.00; do. Family, \$5.25 to 6.50; City Mills Super, \$1.35 to 1.50; do. Rio brands Extra, \$6.75 to 7.00; City Fancy brands, \$3.75. Rye Flour, \$1.00 to 5.25; Corn Meal, City, \$1.00; Western, \$3.50 to 3.62; Buckwheat Meal, Md. and Pa., \$2.00 to 2.50; New York, \$2.75, 100 lbs.

Wheat.—Market dull, with quotations as follows: Southern red, 125 to 140 cents for good to prime; do. amber, 145 to 150, for fair to choice; do. white, 140 to 145 cents for good to prime; Western, No. 2 red, 181 cents.

Corn.—Receipts large. Much not in strictly prime condition and dull. Prime lots in good demand. We quote Southern yellow, new, 50 to 63 cents; old, 70 cents; do. white, new, 50 to 64 cents; old, 68 to 70 cents; Western mixed, 73 cents.

Oats.—Heavy and dull, with sale of Southern at 45 to 50 cents, and Western mixed 40 cents.

Rye.—Dull, and quoted at \$1 to 85 cents.

Cotton.—Dull and heavy, with prices somewhat off. Prices quoted: Middling 18½ to 19½ cents; Low Middling 18 to 19 cents; Good Ordinary 11½ to 12½ cents.

Hay and Straw.—Receipts of Hay large; of Straw small. We quote Cecil Co. Timothy \$34 to 36; Pennsylvania and New York \$22 to 24; Mixed \$20 to 22; Clover \$18. Wheat Straw \$13; Oat do. \$15; Rye do. \$22.

Live Stock.—Beef Cattle.—Dull and slow at last market, with sales of best at 6 to 6½ cents; generally rated first class 5 to 6 cents; medium or good fair quality 4½ to 4¾ cents; ordinary thin steers, oxen and cows 3 to 4½ cents. *Sheep*.—Dull, with sales at 4 to 5½ cents; Lambs 5½ to 6½ cents. *Hogs*.—In fair demand, with sales at 9 to 10 cents—the latter for extras.

Mill Feed.—City Mills Middlings \$23; Brownstuff \$21; Western Bran \$17 to 18; Shipstuf \$19.

Provisions.—Market active. Bulk Shoulders 9½ cents; clear-rib Sides 12½ cents; Bacon Shoulders 11 cents; clear-rib Sides 14 to 14½ cents; Refined Lard 14 cents; Hams 15½ to 16 cents; Mes Pork \$22.50. *Dressed Hogs*—\$3.75 to 3.85. *Butter*.—New York tubs 30 to 35 cents; Western 25 to 28 cents. *Cheese*.—New York Factory 14½ to 15½ cents; Western 12 to 13 cents.

Tobacco.—Generally dull, buyers demanding concessions. We quote Maryland frosted \$5.00 to 6.00; sound common \$6.50 to 7.00; medium \$7.00 to 7.50; leafy brown \$3.5 to 11.00; brown to red \$9.00 to 11.00; extra spangled \$15.00 to 18.00; fancy yellow \$20.00 to 30.00; Virginia, common to good lugs, \$6.50 to 8.50; common to medium leaf \$9.00 to 12.00; good to fine leaf \$13.00 to 16.00; selections \$17.00 to 30.00.

Wool.—Market quiet. Burry 25 cents; Unwashed 30 to 34 cents; Tub-washed 47 to 49 cents; Fleece-washed 40 to 42 cents.

Michigan Agricultural Reports.

To Wm. H. Marston, Esq., its Secretary, we are very much indebted for a series of the Annual Reports of the State Board of Agriculture of Michigan,—a collection of volumes which contain a great amount of very valuable matter, some of it illustrating the successive steps by which one agricultural college in this country has been made a success; thanks to the intelligence, faith and persistence of its managers.

Clacking and Overreaching in Horses.

A correspondent of the *Canada Farmer* advises this treatment: Shorten the toe of the hind shoe and raise the heels of the hind shoes to nearly an inch. This takes the ground sooner in the horse's stride and consequently brings the toe to the ground before it reaches the forefoot. To prevent the weight being increased, the extreme heel of the shoes may be reduced to half the usual width and cased with steel to prevent its wearing too rapidly. The front shoes will require no alteration.

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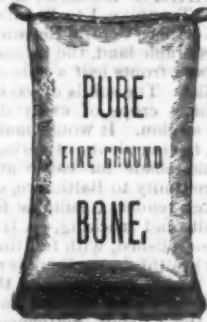
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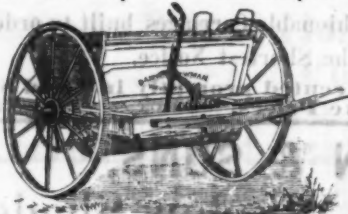
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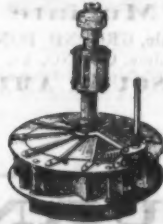
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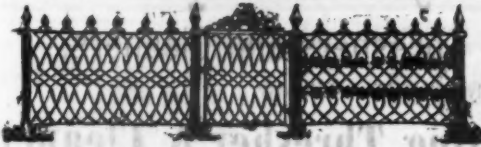
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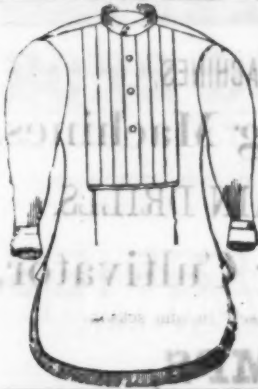
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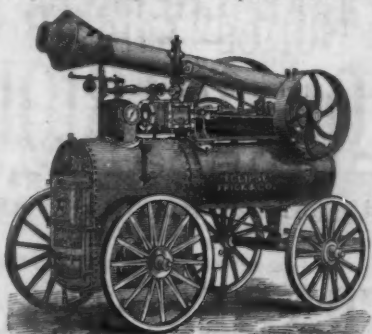
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